EXHIBIT 7

COMMONWEALTH OF PUERTO RICO
PUERTO RICO ENERGY COMMISSION

IN RE: PUERTO RICO ELECTRIC POWER AUTHORITY RATE REVIEW	**CASE NO.:** CEPR-AP-2015-0001 **SUBJECT:** Final Resolution and Order

FINAL RESOLUTION AND ORDER

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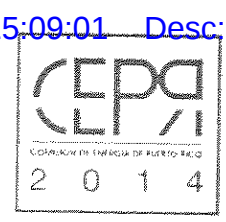

Executive Summary

With this Order the Puerto Rico Energy Commission ("Commission") takes another step in the long, painful process of providing for Puerto Rico an electric company that excels.

The process is long because the culture and practices arising from 75 years of monopoly status, subject to continuous and shortsighted political interference but with no oversight by an objective, professional and apolitical commission, cannot be changed quickly.

The process is painful because the damage caused by this culture and these practices—damage in the form of deep debt, a deteriorated physical system, demoralized workers, hesitant lenders, skeptical renewable developers and suffering consumers—will require everyone to bear some cost, and make some effort, to solve the problems.

This order is another step because we have already issued five orders that signal to consumers, bondholders, renewable developers and government policy-makers that we are committed to making the difficult decisions, required by the facts we face, to cause the Puerto Rico Electric Power Authority ("PREPA") to emerge from its current crisis and realize its potential.[1] Taken together, these orders, along with today's Final Resolution and Order, seek to produce the fiscal health and professional excellence PREPA needs to satisfy its obligations to its bondholders and its customers.

The purpose of this Order

The specific steps we take in this order are to establish (a) the revenue requirement and rates of the PREPA for fiscal year 2017 (July 1, 2016 through June 30, 2017); and (b) a procedure for updating those rates for the years thereafter. While this Order describes these rates as implementing PREPA's revenue requirement for fiscal year 2017 (abbreviated as "FY2017"), the situation is more complicated, in four respects.

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[1] Those orders, each cited and discussed at various points in the current Order, include the **Restructuring Order** (assuring bondholders that participating debt will be securitized and paid off, while guaranteeing ratepayers the benefit of approximately $867 million in bondholder concessions. *See* Restructuring Order, CEPR-AP-2016-0001, June 21, 2016 at 2); the **Provisional Rate Order** (which provided PREPA necessary cash flow and thus enabled both utility operations and bondholder negotiations to continue); the **Integrated Resource Plan Final Resolution and Order** (which aligned PREPA's fuel and power plant plans with the Commonwealth's long-term need for fuel diversity, renewable energy and energy conservation); the **Performance Case Order** (which initiated an investigation and audit into PREPA's performance, with the intent of developing new performance standards and holding PREPA accountable for those standards); and the **Transparent Bill Order** (which approved the bill format to be used to clearly identify and present to the customers the charges and credits applicable to them).

1. While the effective date of these rates will be 60 days after this order,[2] there will be a reconciliation back to August 1, 2016, the date on which provisional rates went into effect.[3]

2. The first invoice on which customers will see these new rates will be sometime in March or April 2017, because PREPA needs time to calculate the specific rates for each rate class and receive Commission approval of those calculations.

3. Because the rates we establish today are different from the provisional rates, the difference will be reconciled on customer bills over the same number of months during which the provisional rates were in effect, starting when the permanent rates go into effect.

4. These rates will remain in effect until the Commission changes them prospectively.

In addition to setting new rates, this Order issues numerous directives aimed at ensuring that PREPA uses the revenues its customers provide wisely and efficiently. Most important among those directives is this one: PREPA shall treat the revenue requirement established in this Order as a cap on annual spending until the Commission changes such revenue requirement and shall prepare departmental budgets that conform to that cap. There will be no over-spending by PREPA.

Appended to this Order are four attachments showing the details of the Commission's adjusted base rate revenue requirement for PREPA. Attachment 1 (a revision of Smith and Dady Ex. 3) presents a summary of the adjusted base rate revenue requirement. Attachment 2 (a revision of Smith and Dady Ex. 4) presents a summary of the Commission adjustments.[4] Attachment 3 (a revision of Smith and Dady Ex. 5) consists of 10 pages, each page containing

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[2] As required by Act 57-2014 (as amended by Act 4-2016).

[3] Per Section 6.25(d) of Act 57-2014, provisional rates are rates that the Commission approves on a temporary basis until the Commission determines permanent rates. Once the Commission determines permanent rates, it must make those permanent rates effective as of the date the provisional rates went into effect, but also adjust the permanent rates to make up for any difference (above or below) between the provisional rates and the permanent rates.

[4] Each Commission adjustment is shown in a column. Column A shows the sum total of the Commission adjustments by line item of PREPA's revenue requirement. The amounts in Column A of Attachment 2 are carried forward to Attachment 1, column B. Attachment 2, columns 1 through 10 show each of the Commission adjustments.

the details of a specific Commission adjustment. Attachment 4 consists of two pages and presents a summary of the CILT and Subsidies amounts.[5]

PREPA shall, no later than January 31, 2017, propose a schedule of technical conferences. The purpose will be to provide any necessary clarification of the directives contained in this order and to determine the deadlines for compliance with them.

PREPA's financial and physical stresses

PREPA is experiencing a financial emergency. All three major bond rating agencies (Moody's, Standard & Poor's, and Fitch) give PREPA a credit rating of default or near-default. This situation is not sustainable. Until PREPA's financial situation improves, it cannot borrow new money. If it cannot borrow new money, it cannot repair its deteriorating physical infrastructure, prepare that infrastructure for a future of renewable energy, pay salaries sufficient to attract and keep excellent workers, and modernize its system so as to enable consumers to save money on their electric bills. The path to transforming PREPA into a reliable, cost-effective, environmentally sound and customer-responsive company—a company central to Puerto Rico's economic recovery—must begin with a plan for stabilizing PREPA's finances.

Meanwhile PREPA's physical infrastructure is deteriorating. Years of underspending have left it unreliable and in disrepair, short of experienced staff, at risk of environmental fines and ill-prepared to accept the quantities of renewable energy mandated by Act 82-2010.[6]

Problems in spending and performance

PREPA's officials and consultants describe an inefficient bureaucracy with high absenteeism, overly staffed with non-value-added administrative personnel. There is a shortage of technical expertise and an unacceptable safety record. Procedures for budgeting and spending do not provide sufficient information on individual project plans and completion. On major capital projects, PREPA was often unable to provide basic explanations, work-plans, or other due diligence documentation.

PREPA's infrastructure spending has been based not on actual needs but on company-wide ceilings rooted in political concerns about rate increases. As PREPA's own witnesses

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[5] Page 1 presents a summary of the CILT and Subsidies amounts that were contained in PREPA's filing. Page 2 presents additional detail of CILT and Subsidies. It also reconciles to the Commission adjusted amount for Subsidies that is reflected in the adjusted revenue requirement.

[6] The Puerto Rico Energy Diversification Policy through Sustainable and Alternative Renewable Energy Act, as amended.

stated: "Historically, there has been political pressure to not increase PREPA's rates in response to cost and investment needs and therefore PREPA has had to sacrifice needed capital expenditures in order to remain solvent and to not run out of cash."[7] In each major area—generation, transmission and distribution ("T&D"), and customer service—PREPA's budgets dropped from FY2010 to 2016, and especially sharply between FY2014 and FY2015. Among the detrimental effects is the focus on reactive maintenance instead of preventative maintenance and new construction.

Artificial spending caps hide the truth. This Commission is committed to reveal the truth. So must PREPA. In future rate proceedings, PREPA must describe, accurately, the total cost that must be incurred to meet the quality standards to which our citizens are entitled. Total cost means total cost: emergency purposes, preventative maintenance, system improvement, and system expansion.

Some intervenor witnesses argued that PREPA's debt is too high and should be renegotiated downward. PREPA has already obtained from major bondholders a 15% reduction in principal, lower interest rates and a five-year deferral of principal. No intervenor offered evidence on how PREPA could have extracted more. In any event, the Commission has no legal authority to order more negotiations or to adjust the outcome of past negotiations.

The old and new revenue requirements

As Shown on Attachment 1, PREPA proposed a total FY2017 revenue requirement $3.501 billion. This amount consists of a base revenue requirement of $2.998 billion, plus the $503 million Transition Charge to be collected by the PREPA Revitalization Corporation ("PREPARC").[8] Because the amounts recovered through the Transition Charge are outside the scope of this proceeding, we address in this proceeding only the base revenue requirement.

In this Order we approve a FY2017 base revenue requirement of $3,413,904,000. That amount consists of the following components:

Operating expenses other than fuel and purchased power: $694,390,000
Fuel: $1,117,273,000
Purchased power: $819,907,000
CILT and subsidies: $188,726,000
Debt service and coverage (DSC): $440,146,000
Ratepayer Funding of Capital Expenditures: $153,462,000

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[7] CEPR-SGH-01-08 at 10. Commission's First Request of Information (June 23, 2016).

[8] A public corporation and instrumentality of the Commonwealth of Puerto Rico created by Act 4-2016, known as the Puerto Rico Electric Power Authority Revitalization Act.

The total Capital Expenditures is $279,218,000, which is the sum of the ratepayer funding of capital expenditures ($153,462,000) and the amount recognized in the debt service coverage margin ($125,756,000).[9]

A significant change to PREPA's proposal is our continuation of the $15 million spending limit on the Aguirre Offshore Gasport, imposed in our IRP order, and pending a full economic assessment of feasible alternatives.

If PREPA's existing rates (excluding the Provisional Rate) remained unchanged, it would receive revenues of $3,236,904,000 producing a deficiency of $177,000,000 on an annual basis. To eliminate that deficiency, this Order increases PREPA's FY2017 revenue requirement by $177,000,000. With few exceptions, the increase will appear on customers' bills in the form of approximately 1.025 cent/kWh increase in the consumption charge. This is a reduction of approximately 0.274 cent/kWh, or twenty-one percent (21%), less than the Provisional Rate established in our June 24, 2016 Order.

The Provisional Rate referenced above were based on PREPA's projection of a deficiency of $222,256,000 on an annual basis.[10] Since the Commission now finds a deficiency of $177,000,000, the difference of $45,256,000 (annualized) must be returned to ratepayers. The reconciliation will take place starting with the first month the permanent rate will be in effect, for the same number of months the Provisional Rate was in effect.

PREPA shall submit no later than February 15, 2017, as part of its compliance filing, a description of the permanent rate increase for each tariff code and the language it will include in each customer's bill explaining the increase.

Revenue allocation

Once a commission determines a utility's total revenue requirement, it allocates responsibility for that requirement among customer classes, then designs rates that collect the allocated revenue from the customers within each class. In both these efforts, a commission seeks to allocate costs to those who cause them.

The starting point for determining cost causation is a cost-of-service-study ("COSS"). The Commission is fully committed to setting rates that are guided by a COSS in which we have confidence. But the gaps in data, along with the numerous subjective and debatable

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[9] *See* Attachment 3, page 2.

[10] For purposes of this base rate order, the Commission is using an amount of $222.256 million as shown on Attachment 1, column A, line 34 as the PREPA-claimed base rate revenue deficiency. The Commission's June 24, 2016 Order on Provisional Rates noted an amount from PREPA's Application of $222,256,790 and referred to the provisional rate increase for brevity in that Order as approximately $222 million. See, e.g., June 24, 2016 Order at 2, footnote 3.

judgments in PREPA's COSS, leave us without confidence that PREPA's COSS describes cost causation accurately. During 2017 the Commission will work with PREPA and intervenors to solve these problems.

In the meantime, we must set rates. A disciplined, credible COSS should be an input to revenue allocation, but it is only one consideration. Commissions typically vary from the COSS based on such considerations as gradualism, inter-class equity and concerns about retaining major loads. Indeed, PREPA's proposed revenue allocation itself deviated markedly from its COSS. Under these unusual and unavoidable circumstances, the Commission will allocate the revenue increase on an equal cent-per-kWh basis with one exception. That exception, relating to two major independent power producers, is discussed in the main text.

Rate design

When setting rates for customers within customer classes, commissions again are guided by something called a marginal cost study. Prices that tend toward marginal cost provide more efficient price signals than prices that do not. We again had concerns about PREPA's marginal cost study, including its estimates on fuel prices, renewable energy costs and the need for infrastructure investment. We will address those concerns in coming months. In the meantime, we will reject PREPA's request to raise the fixed charge for non-subsidized GRS customers from $3.00 to $8.00, in favor of setting the charge at $4.00. We will retain the slight differential in residential customer per-kWh rates between consumption below and above 425 kWh. We will retain the current time-of-use rates and reject PREPA's request to raise demand charges for industrial and commercial customers, while allowing PREPA to offer a load-retention tariff for large customers that might otherwise depart, shifting costs to others.

We reject PRASA's request for a 16 ¢/kWh preferential rate under Act 50-2013.

Due to the complexity of revenue allocation and rate design, we will hold a separate proceeding in 2017 to explore these issues in greater depth.

Net-metering

Customers without generation behind the meter take all their energy from PREPA. The energy delivered to the customer from PREPA is defined as *inflow* in the Restructuring Order. In addition, net-metering customers also provide energy to PREPA, which we termed *outflow* in the Restructuring Order.

Typically, a net-metering customer will experience outflow in some hours of a month, and inflow in other hours. It is our intention that each customer be billed monthly for the sum of the inflow over the metering intervals with net inflow, and be credited for the sum of the outflow over the metering intervals with net outflow.

The manner in which the Transition Charge is to be collected from all net-metering customers was decided and explained in the Transition Charge proceeding.[11] Those dispositions remain unaltered. The treatment of net-metering customers regarding all PREPA's charges is presented below.

For **outflow** from **non-grandfathered** net-metering customers, there shall be a credit equal to the sum of the customer's base rate energy charge; the fuel charge; the purchased-power charge; and the subsidies for Hotel Discount, Downtown Commerce, Churches analog, rural aqueducts, GAS, Condominium Common Areas, and irrigation district; and the Act 73 Tax credit. These items are, or are akin, to normal utility costs (which net-metering customers are already allowed to avoid).

For **outflow** from **non-grandfathered** net-metering, the credit **shall not** include: CILT, the energy efficiency charge (when created), public lighting subsidy, the Energy Commission assessment, and all the items denoted as "help to humans" during the technical hearing: life-preserving equipment, LRS Tariff, RH3 tariff, residential fuel subsidy, and the fixed public housing rate (RFR tariff). These items are mostly social commitments—things that benefit the public as a whole, including net-metering customers.

For **outflow** from **grandfathered net-metering customers**, the credit shall be the sum of: Base Rate, fuel charge, purchased power charge, all items in the Subsidy Rider, CILT, and energy efficiency charge.

For **inflow**, each net-metering customer shall pay the full rate for its class, including the base rates, fuel charge, power purchase charge, CILT charge, full subsidy charge, and energy efficiency charge.

We reject PREPA's proposal to exclude low-income customers from opportunities to engage in net-metering.

Future rate-setting

For purposes of setting future rates, the Commission adopts three distinct procedures, each designed to impose discipline on PREPA's spending.

1. A "three-year rate case" will review PREPA's cost-reduction efforts, the physical condition of its system and its prior and prospective budgets for each major department. With that information, the Commission will establish a new revenue requirement, a new cost of service, a new revenue allocation and a new rate design.

[11] *See* Restructuring Order, Docket No. CEPR-AP-2016-0001, June 21, 2016, at 71-84.

2. In each year between each three-year rate case, the Commission will conduct a series of "one-year budget examinations." There the Commission will examine PREPA's proposed departmental budgets for the coming fiscal year, compare them to the prior year's budgets, then use that information to establish a just and reasonable revenue requirement for the fiscal year beginning on the upcoming July 1. This updated revenue requirement will reflect (a) all feasible cost reductions that have been implemented in the prior year, along with those cost reductions that must be implemented in the next year; and (b) any known and measurable changes that we expect to occur in the upcoming fiscal year.

3. For FY 2018 (which begins July 1, 2017) there will be a special procedure to address any amendment to the approved FY2017 revenue requirement necessary to reflect expected FY2018 actions.

In the next few weeks we will hold a technical conference to develop with PREPA a procedure that achieves the necessary synchronization between budgeting and revenue requirement. PREPA shall have no expectation of spending more than its approved revenue requirement, then charging ratepayers for the excess. Nor will we repeat—ever again—the experience of this FY2017 rate proceeding, in which PREPA's consultants offered a revenue requirement having no visible connection to actual department budgets.

PREPA's corporate structure

PREPA formed PREPA Holdings in 2009 as a wholly-owned subsidiary. PREPA Holdings is a limited liability company which in turn owns three other subsidiaries: PREPA Networks, LLC; Consolidated Telecom of Puerto Rico, LLC; and InterAmerican Energy Sources, LLC.

Because of these subsidiaries' small size relative to PREPA, their effects (positive or negative) on PREPA's financial condition will be infinitesimal—provided the subsidiaries remain at their present size. If, however, any one of those companies undertakes a substantial expansion or a large construction project and requires a significant capital infusion, the risk of financial harm to PREPA rises. On the benefit side, PREPA argued that it benefits from its subsidiaries' knowledge of PREPA and that their earnings remain within the PREPA family.

Whenever a monopoly company affiliates with a competitive company there is a risk of harm to the monopoly company's customers and with its affiliates' competitors. To prevent such harm, the Commission is requiring PREPA to provide information about its affiliates' financing and business activities. Other directives, intended to protect consumers and competitors from harm, include these:

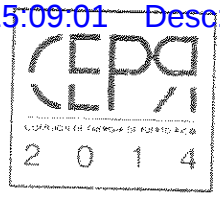
1. PREPA shall not create any new direct or indirect affiliates, nor inject further equity into or loan further money to, any direct or indirect affiliate, without informing the Commission at least 30 days before such action is to be taken.

2. PREPA must propose a code of conduct that ensures, to the extent feasible, that affiliate relationships cause PREPA's customers no extra cost and cause PREPA's competitors no unfair disadvantage.

3. Until further notice PREPA shall provide no resources or assistance to, or receive resources or assistance from, any affiliate whose business activities include competing to provide renewable energy facilities. PREPA shall disclose all such resources or assistance that have been provided to date.

Conclusion

The Legislature has directed this Commission to use its full legal powers to transform PREPA into a modern, efficient, customer-responsive utility. This transformation will take time. PREPA will not become more efficient merely because of this Order. Many steps lie ahead—infrastructural, operational, administrative, financial and physical—before customers will see positive and measurable results. Just as paying for our children's education imposes costs today but benefits for a lifetime, so will paying appropriate electricity rates today promise improvements for our future.



PART ONE:
Jurisdictional, Financial and Physical Context

I. The Commission's Jurisdiction, Role and Responsibilities

A. The Commission's jurisdiction

1. Act 57-2014[12] established procedures and standards for evaluating and establishing electric rates to be charged by PREPA.[13] The entity statutorily created to follow those procedures and apply those standards is this Commission.

2. Section 6.25(a) requires PREPA's rate to be "just and reasonable and consistent with sound fiscal and operational practices which result in a reliable service at the lowest reasonable cost." In evaluating whether a proposed rate complies with the aforementioned requirement, the Commission must take into account (i) the state of PREPA's infrastructure; (ii) the costs it incurs in providing electric services; (iii) its level of debt and debt service responsibilities; (iv) its ability to improve services and reduce costs; (v) the adoption of energy conservation and efficiency measures; (vi) the impact legal requirements (such as subsidies and grants) have on PREPA's revenue needs; and (vii) the input received from intervenors and the general public during the proceeding.[14] To carry out these requirements, the Commission approved Regulation 8720, establishing the information requirements with which PREPA had to comply when submitting its petition for new rates.[15]

3. Section 6.25(d) of Act 57-2014 grants the Commission discretion to, within 30 days from the date on which a petition for new rates is filed, approve a Provisional Rate. The Provisional Rate would enter into effect within 60 days from the date the Commission approves such a rate[16] and would remain in effect until new rates enter into effect or until the Commission rejects PREPA's petition. For PREPA's first petition for rate review, Section 6.25(f) requires the Commission to complete its review within 180 days from the date PREPA's request is deemed to be complete. If the Commission fails to make a final determination within said 180 days, the rate proposed by PREPA is deemed approved as a matter of law.

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[12] Act 57-2014, known as "Puerto Rico Energy Transformation and RELIEF Act", as amended.

[13] Sections 6.4(a) and 6.25 of Act 57-2014.

[14] Section 6.25(b) of Act 57-2014.

[15] New Regulation on Rate Filing Requirements of the Puerto Rico Electric Power Authority's First Rate Case. Entered into effect on March 28, 2016.

[16] Unless the Commission determines, it shall enter into effect before this, but never for a period of less than thirty (30) days from the approval of the provisional rate.

B. The Commission's roles and responsibilities

4. In an ordinary rate proceeding, a regulator determines the total revenue needed to provide service, allocates among customer classes the responsibility for paying that revenue, and then establishes rates for each customer class so that, when those rates are paid, the utility receives the revenue it needs from the customer classes responsible for providing that revenue.

5. This is not an ordinary rate case. PREPA faces unique challenges. Although we establish today new rates for electric service, we do not conclude our review of PREPA's operations and performance. This Final Resolution and Order is one of many steps which the Commission has taken, and will continue to take, to transform Puerto Rico's energy market into one that is dynamic and cost-effective. The Commission's responsibilities are not limited to establishing rates. We must also ensure that PREPA's operational performance satisfies our citizens' legitimate needs while its financial performance satisfies investors' legitimate needs. These two Commission responsibilities are mutually reinforcing. Carrying them out successfully is essential to PREPA's success and its customer's well-being.

6. The Commission's responsibility is not to balance conflicting interests, but to align those varied interests with the public interest. Balancing interests assumes a conflict among them, with winners and losers. Aligning interests means establishing a common purpose, and stimulating each industry participant—consumer, investor, worker—to pursue that purpose. With our procedures and our orders, we seek to help our fellow citizens see and share that purpose, so that together we create an electricity industry that serves us all.

7. Imagine a row boat skillfully moving from one end of a lake to another, with all rowers maneuvering in the same direction. It would move from one side of the lake to the other quickly and efficiently, the rowers feeling committed to each other and empowered by their success. Now imagine that same row boat with each rower rowing in their own direction. Empowered by our statutory authority and enabled by our citizens' participation, this Commission will strive to set forth the steps and sacrifices we all need to make to attain the electricity future the Commonwealth deserves: sustainable, efficient, reasonably priced and environmentally responsible.

II. PREPA's financial troubles

A. PREPA's current financial condition

8. PREPA is experiencing a financial emergency. All three major bond rating agencies (Moody's, Standard & Poor's, and Fitch) give PREPA a credit rating of default or near-default. Because PREPA in 2016 lacked sufficient cash flow to meet certain debt repayment deadlines, it had to borrow from its lenders to make its obligatory payments. Based on that fact, Standard & Poor's declared PREPA's debt certain to be in default and lowered its credit rating in June 2016 to D. As of November 2016, Fitch rated PREPA's debt as C, while Moody's rated PREPA's debt as Caa3. All these ratings are "below investment grade."

9. Rather than declare default on their bonds and sue for payment, PREPA's bondholders have been, over the past year, negotiating a financial restructuring.[17] Both Fitch and Moody's have indicated that these ratings could improve (1) if and when PREPA and its creditors reach an agreement on the restructuring of PREPA's debt; and (2) if the Commission supports that restructuring with a rate decision that recognizes PREPA's condition.

10. With one rating agency declaring default and two others awaiting the outcome of bondholder negotiations (while rating PREPA's debt near default and vulnerable to non-payment), PREPA's financial condition is dire. Commission consultant Stephen G. Hill[18] explained that PREPA will no longer be able to borrow to meet its semi-annual principal and interest payments, without a credible plan for restoring its financial health.[19]

11. This situation is not sustainable. Until PREPA's financial situation improves, it cannot borrow new money. If it cannot borrow new money, it cannot repair its deteriorating physical infrastructure, prepare that infrastructure for a future of renewable energy, pay salaries sufficient to attract and keep excellent workers, and modernize its system so as to enable consumers to save money on their electric bills. The path to transforming PREPA into a reliable, cost-effective, environmentally sound and customer-responsive company—a company central to Puerto Rico's economic recovery—must begin with a plan for stabilizing PREPA's finances. As Mr. Hill stressed, at the center of such a plan must be rate levels sufficient not only to pay PREPA's debts currently but also to improve its bond ratings to a point where PREPA can once again issue long-term debt at reasonable cost.[20]

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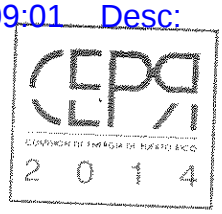
[17] A detailed discussion of the public version of those negotiations is contained in our Restructuring Order issued June 21, 2016 in CEPR-AP-2016-0001. That Order approved a Petition from the Puerto Rico Electric Power Authority Restructuring Corporation ("PREPARC") to establish a "calculation methodology and adjustment mechanism" that will support a "Transition Charge." That Transition Charge will be imposed by PREPARC and collected by PREPA from its customers. As the Commission explained in the Restructuring Order (at ¶ 2), the Transition Charge will reduce costs for PREPA's customers because it implements the participating bondholders' agreement to reduce PREPA's repayment obligation on participating bonds by 15%, lower the contractual interest rate on those bonds and defer any collection of principal for five years. The restructured debt costs will be recovered in a separate charge, which is lower than the costs would be without restructuring. As of this Order's date of issue, negotiations over the debt restructuring are continuing. See also PREPA Ex. 2.0, Direct Testimony of Lisa Donahue, PREPA Chief Restructuring Officer, at pp. 10-12.

[18] Mr. Hill is a financial expert who has testified in over 300 cases involving utility regulation. The majority of his clients have been consumers or agencies obligated to represent consumers.

[19] Hill Report at 14.

[20] *Id.*



B. Factors leading to PREPA's current financial condition

12. As with any other utility, PREPA's rates must be sufficient to cover its reasonable costs, including the costs of paying the principal and interest on its loans. From its beginnings in the 1940s until the enactment of Act 57-2014, PREPA had the power to raise its rates on its own. Since 1989, however, PREPA's Board has failed to raise its rates, (except that a fuel adjustment clause and purchased power clause recover increases in those costs). Because of this, as expenses rose PREPA had to borrow to pay them—an imprudent practice that was no bargain for customers, because since 2014 PREPA has been unable to pay its debt costs. PREPA's continuing losses—annual costs exceeding annual revenues—have reduced the Company's assets well below its liabilities, creating a large negative net position.[21] That trend of negative net income leading to a negative net position began in 2009 and continues today. According to PREPA's monthly unaudited financial report to its Governing Board for June 2016, the current negative net position or cumulative loss is approximately $1.9 billion.

13. Responsibility for PREPA's current financial straits also lies with a key advisor to the bondholders—the Consulting Engineer. In the 1974 Trust Agreement, which governs all the Revenue Bonds that PREPA has issued, the bondholders required that a Consulting Engineer provide an annual comprehensive review of PREPA, the condition of its generating plants, transmission and distribution lines, its financial condition and, importantly, an analysis of financial projections. The Consulting Engineer should have sounded an alarm during the years of no rate increases, especially when PREPA's expenses exceeded its revenues. This alarm never went off.

14. Worsening the situation was the ongoing recession, which began in 2006, and an insufficient recovery therefrom, causing PREPA's kWh sales (industrial sales, primarily) to decline. With no rate increase, that sales decline widened the gap between PREPA's costs and revenues. Nevertheless, the Consulting Engineer opined in June 2013 as follows:

> In the opinion of the Consulting Engineers, the properties of the System are in good repair and sound operating condition. The Consulting Engineers believes the Authority will receive sufficient revenues in fiscal year 2014 with the existing rates to cover current expenses, to make all required deposits in accordance with the 1974 Agreements dictates (sic) and to exceed its 120% debt service coverage requirement. Based on the outstanding debt at the end of fiscal year 2013, the debt service coverage was 138% in fiscal year 2013 and

[21] "Net position" for a government corporation like PREPA is the difference between the liabilities and assets on its balance sheet.

> is forecasted to be 141% in fiscal year 2014, prior to adjustment for planned financings during fiscal year 2014.[22]

The Consulting Engineer was wrong. Those "planned financings" never came to pass because by 2014, PREPA and its bondholders had realized that the company could no longer meet its debt obligations and continue to operate. The year 2013, therefore, was the last year in which debt was issued by PREPA (not counting the debt issued to existing bondholders in January and June 2016 to cover principal and interest payments for which PREPA lacked the cash flow). Instead of lending more money in 2014, bondholders reached a "forbearance" agreement in which (1) PREPA would suspend bond payments; (2) bondholders would agree not to declare default and sue; and (3) PREPA would retain a Chief Restructuring Officer to renegotiate the debts, address PREPA's operating problems and try to effect a turnaround.

15. Also wrong was the Consulting Engineer's conclusion that "the properties of the System are in good repair and sound operating condition," as we will detail in Part Two-III.A.2.d of this Introduction. In Part Two-VI we will address the need to reform the role of the Consulting Engineer. [23]

To summarize this complex situation, we turn again to Mr. Hill:

> The Company, its Board, as well as the Government Development Bank and the Consulting Engineer were unable to sufficiently trim operating expenses to reduce the need for rate increases, were unable to bring revenues in line with expenses through rate increases, did not raise rates when necessary, did not appear to weigh heavily enough the declines in customer base and kWh sales, and thought it appropriate to issue debt in order to make up revenue shortfalls. Any one of those factors could be operationally problematic for a publicly-owned utility, but all of them together have led to a decline in PREPA's financial position and, ultimately, its capacity to provide reliable electric service to the Commonwealth.[24]

C. The Commission's prior orders relating to PREPA's financial situation

16. In two major orders issued in 2016, the Commission began the task of restoring PREPA's financial health and regaining investor confidence and the public's trust. Taken

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[22] URS June 2013 Annual Report, PREPA Ex. 3.02(D) Consulting Engineers Report. Fortieth Annual Report on the Electricity Property of the Puerto Rico Electric Power Authority, June 2013 introduction at 3.

[23] In September 2016, the Puerto Rico Commission for the Comprehensive Audit of the Public Credit published a "Pre-audit Survey Report", furnishing more detail on the contributions made by PREPA's management and the Consulting Engineer in contributing to PREPA's current financial crisis.

[24] Hill Report at 15-16.

together, these orders, as well as today's Final Resolution and Order, "seek to produce the fiscal health and professional excellence PREPA needs to satisfy its obligations to its bondholders and its customers."[25]

1. Restructuring Order

17. PREPA currently holds billions of dollars in debt which it is unable to pay at current rates. Raising PREPA's rates sufficiently to pay the principal and interest currently due on that debt would burden Puerto Rico's economy intolerably. Those two situations have left PREPA unable to access capital markets to finance expenditures required to repair and modernize its aging infrastructure. As a result, as we will discuss in Part Two-II.B, the ratepayers of today must start to pay for capital investments needed for tomorrow.

18. PREPA's debt restructuring will consist of issuance of new securitized bonds which would replace or defease most of PREPA's outstanding bonds. These new securitized bonds, known as Restructuring Bonds, will be issued by the PREPA Revitalization Corporation ("PREPARC").[26] They will reflect a 15% reduction from their original amount (*i.e.*, their face value), will have a five-year delay in their principal payment, and will bear a lower interest rate than PREPA's current debt, thus reducing the overall costs to PREPA's electricity customers. In exchange for these bondholder concessions, PREPA agreed to have the Restructuring Bonds paid off through a Transition Charge. The Transition Charge, imposed by PREPARC and recovered from customers by PREPA, increases the certainty that bondholders will receive their payments timely and fully. The Transition Charge, while stated separately on customers' bill, does not impose an extra cost; it is a mechanism for reducing cost.

19. On June 21, 2016, the Commission, acting under Article 6.25A of Act 57-2014 and Chapter IV of Act 4-2016[27], issued a Restructuring Order.[28] That Order approved PREPARC's proposed "calculation methodology and adjustment mechanism" for the Transition Charge. As we stated in the Restructuring Order:

> The certainty contributed by a securitized Transition Charge is essential to the restructuring of PREPA's debt and its overall financial health. Without this

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[25] In Re: Integrated Resource Plan of the Puerto Rico Electric Power Authority, Docket No. CEPR-AP-2015-0002 at 4, ¶ 14.

[26] The PREPA Revitalization Corporation is a public corporation created by Act 4-2016 to issue securitized debt which could be exchanged for PREPA legacy debt. The PREPA Revitalization Corporation is separate and independent from PREPA and does not provide electric services.

[27] Act 4-2016, known as the "Puerto Rico Electric Power Authority Revitalization Act".

[28] In Re: Petition for Approval of Transition Order filed by the PREPA Revitalization Corporation, Docket No. CEPR-AP-2016-0001.

restructuring, it is likely that PREPA would be unable to access new capital funds. Without the ability to access these funds, systems repair would become less frequent, the probability of outages would increase, and rates would need to rise more rapidly (to pay upfront for the system upgrades that otherwise would be funded through long-term debt). PREPA would have less ability to build new infrastructure to accommodate more renewable energy, increase generation efficiency and transition into a modern utility. The Transition Charge, therefore, is more than a mechanism for ensuring payment to bondholders; it is an essential part of the path toward a modern, reliable electric system.[29]

2. Provisional Rate order

20. Act 57-2014 authorizes the Commission to approve Provisional Rates. A Provisional Rate is a temporary rate that remains in effect while the Commission evaluates PREPA's Petition for a permanent rate. Once the permanent rate is established, the Commission then would require PREPA to credit or recover any difference between the permanent rate and the provisional rate.

21. On June 27, 2016, we authorized PREPA to establish a uniform 1.299 ¢/kWh increase across all customer classes.[30] This increase provides PREPA with additional annual revenues of approximately $222 million—the amount PREPA estimated as its annual "deficiency": the difference between the annual revenue it needed to fund its operations and capital expenditures, and the annual revenue it was collecting from customers under the then-current rates. Without the Provisional Rate, PREPA would have continued to under-collect for the 180 days during which its Petition for permanent rates was under review by the Commission, making its dire financial condition worse.

III. PREPA's physical condition

22. PREPA's physical infrastructure needs help. Years of underspending have left it unreliable and in disrepair, at risk of environmental fines and ill-prepared to accept the quantities of renewable energy mandated by Act 82-2010.[31] PREPA's own witnesses described PREPA's physical situation to be an "ailing grid,"[32] "degraded infrastructure" and a

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[29] Restructuring Order, CEPR-AP-2016-0001 at 5, ¶ 12.

[30] See Provisional Rate Order, CEPR-AP-2015-0001.

[31] Act 82-2010, also known as the "Puerto Rico Energy Diversification Policy through Sustainable and Alternative Renewable Energy Act", as amended.

[32] PREPA Ex. 3.0 at 211-213 (Ms. Miranda).

"deteriorated" transmission system.[33] We summarize here the evidence on outages and interruptions, PREPA's failure to comply with MATS standards[34], the resulting costs and the contributors to these problems, and the Commission's solutions as set forth in the Modified Integrated Resource Plan.

A. Customer interruptions and plant outages

1. Key metrics

23. Utilities typically measure system reliability using the standard reliability metrics of SAIFI, SAIDI and CAIDI.

24. SAIFI is the System Average Interruption Frequency Index. It measures the average number of times that a customer experiences an interruption during a reporting period. It is calculated as a fraction: customers interrupted in a period divided by the number of customers served in that period. A SAIFI of 0.33 for a particular year means that one-third of the customers experienced an interruption during that year.

25. SAIDI is the System Average Interruption Duration Index. It measures the duration of an interruption that the average customer experiences during a given reporting period. It too is calculated as a fraction: the total customer minutes interrupted in a period divided by the number of customers served. A SAIDI of 50 for a given year means the average customer experienced 50 minutes of interruption that year.

26. CAIDI is the Customer Average Interruption Duration Index. It measures the average time to restore service; or, more precisely, interruption time endured by the average customer who experiences an outage. It is similar to SAIDI, except that the denominator is the number of customers interrupted instead of the total number of customers. Therefore, the fraction is the total customer minutes interrupted in a period divided by the number of customers interrupted. A CAIDI of 20 minutes for a particular month means that any customer experiencing an interruption that month was without service for 20 minutes.

2. PREPA's reliability: failing its own goals

27. PREPA's current goal for SAIFI is 0.33 interruptions per connected customer per month. On average, PREPA customers experience at least one five-minute outage every month, or a SAIFI of 11.61 per year, twelve times that of the average U.S. customer. PREPA's

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[33] PREPA Ex. 1.0 at 80 to 84 (Dr. Quintana).

[34] National Emission Standards for Hazardous Air Pollutants (known as the Mercury and Air Toxics Standard or MATS).

goal for SAIDI is 48 minutes per connected customer per month, or about ten hours of outage per year. In recent months, PREPA's actual SAIFI has been closer to 16 hours per year. [35]

28. These levels exceed those of other utilities. In 2012, the national annual SAIDI measured about 3.33 hours per year, including storm events. PREPA's target—excluding storm events—is about 10 hours per year, above the 75th percentile of utilities.[36]

29. Even with its less ambitious goals, since January 2013 PREPA has exceeded its targets in 64 percent of the months for SAIDI, 51 percent for SAIFI, and 68 percent for CAIDI.[37] Commission consultants Drs. Fisher and Horowitz found that outage duration has been increasing. CAIDI has risen from approximately 140 minutes per month in January 2013 to approximately 180 minutes per month in July 2016.

30. Shifting the focus from customers to plants does not improve the picture. PREPA's "forced outage factor" (the probability that a unit will not be available for service) averaged 6.87% from 2010 to mid-2015 but ended that period at a historic high of 27%.[38] As of late 2015, chronic outages have occurred at each of the Aguirre, Palo Seco and San Juan plants.

B. The cost of interruptions and outages

31. Outages cause costs, both short-term and long-term. In the short term, PREPA must use less efficient diesel backup units as replacements for non-functioning plants. In FY2015 and FY2016, PREPA doubled its use of distributed generation turbines and tripled its use of the diesel Aguirre combustion cycle (CC) plant.[39] And to ensure reliability in the face of unpredictable outages, PREPA must place more plants on "spinning reserve" to avoid customer interruptions.[40] Over the long run, PREPA's forced outages require it to shift funds to system restoration and away from fundamental improvements.

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[35] Fisher-Horowitz Report at 34-35.

[36] Larsen, P.H., K.H. LaCommare, J.H. Eto, and J.L. Sweeney. *Assessing Changes in the Reliability of the U.S. Electric Power System. Lawrence Berkeley National Laboratory* at 9. August 2015. Last accessed January 9, 2017, https://emp.lbl.gov/sites/all/files/lbnl-188741_0.pdf. Provided as Exhibit Fisher and Horowitz, Exhibit 03.

[37] CEPR-MC-01-011(b)(i)-(iii) at 2. Commission's Fourteenth Request of Information (September 30, 2016).

[38] CEPR-JF-01-16 Attach 01. Forced Outage ("FO") Analysis: Business Case at 3. Public version. Commission's Sixth Request of Information (July 29, 2016).

[39] CEPR-AH-03-07 Attach 01 at 5. Commission's Seventh Request of Information (August 12, 2016).

[40] PREPA Ex. 3.0, ll. 367-71.

C. Contributors to the problems

32. PREPA's outage problems have three sources: deferred maintenance; reduced capital spending; and a shortage of expert staff.

1. Deferred maintenance

33. Plants need regular maintenance and overhauls. PREPA has attributed its outages to a practice of delaying maintenance and overhauls, along with budget constraints that lead to delays in and avoidance of necessary inspections, maintenance and repairs.[41] PREPA also has delayed investing in major repairs at Aguirre, in favor of waiting for the gas conversion that will accompany the proposed Aguirre Offshore Gas Platform—which itself is delayed (as discussed in Part Two-II.C.3 below).[42] And according to the Consulting Engineers' 2013 Report, PREPA adopted a policy of avoiding overtime for scheduled outages—a decision that has extended outage duration and reduced plant availability.[43]

34. As parts fail, generating units become unavailable. A failure to invest in maintenance thus leads to increased outages. Drs. Fisher and Horowitz found that the availability of PREPA's generation units has declined with spending in Operations & Maintenance. The problem is not confined to the generation system:

> [D]ue to limited capital, transmission investments were selected based primarily on the immediate impact upon system reliability of a failure to invest. Thus, PREPA invested in transmission projects that helped to alleviate or mitigate operational congestion problems, system overloads, and voltage regulation problems at the bulk transmission and sub-transmission level. When under significant capital constraints, such investments are the most urgent and failure to make them has the most immediate and unavoidable potential consequences.[44]

PREPA states, on its part:

> [T]he physical structural/mechanical and electrical deterioration of critical components in the transmission and sub-transmission lines have directly caused significant grid outages and service interruptions. Physical access to repair or replace structures is very difficult, which consequently means that in

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[41] Fisher-Horowitz Report at 29.

[42] *Id.*

[43] URS June 2013 Annual Report at 57.

[44] CEPR-JF-01-01(a) at 3. Commission's Sixth Request of Information (July 29, 2016).

addition to the long service interruptions, the system is exposed to the potential risk of multiple contingencies and cascading outages.[45]

2. Staff availability and experience

35. Forced outages are due in part to "skilled labor leaving operational roles and not being replaced."[46] There has been a "loss of significant number of experienced personnel," replaced by "new employees [who] do not have the required expertise and knowledge."[47] In addition, "technical advisors [are] not always familiar with technology [such as] stator windings at Aguirre, turbine controls issue at Costa Sur and vibrations problems at San Juan."[48] In distribution in particular, PREPA has suffered a 22% workforce reduction since 2014. As a result, construction crews have been shifted from preventative to reactive maintenance.[49] The shortage of funds makes it unable to execute a well-planned preventative maintenance program.[50]

3. Declining capital investments

36. Dr. Quintana, PREPA's Executive Director, stated it clearly: "Insufficient revenues ha[ve] led to degradations of PREPA's infrastructure."[51] He added: "[H]istorically low investment in capital expenditures has led to more than twice the number of forced outages than the U.S. industry standard."[52] Consider this statement from PREPA's director of transmission and distribution:

> The fact that we have had capital constraints and haven't been able to replace and construct many of our transmission lines is a problem here. The fact is that we are facing a high level of deterioration of the system. Just to give you an idea, in the first 110 days of this fiscal year, we have faced 38 major transmission line outages. And when I say 38, we mean that in all of those

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[45] CEPR-AH-02-01(d). Commission's Sixth Request of Information (July 29, 2016).

[46] PREPA Ex. 3.0, ll. 367-368.

[47] CEPR-JF-01-16 Attach 01. at 6. Commission's Sixth Request of Information (July 29, 2016).

[48] *Id.* at 7.

[49] CEPR-RS-03-03 at 9. Commission's Sixth Request of Information (July 29, 2016).

[50] *Id.*

[51] PREPA Ex. 1.0 at 4.

[52] *Id.* at 313-315.

outages we had a high risk of conductors on the floor. That's the type of situation that we're facing right now.[53]

D. PREPA's MATS compliance problems

37. In 2012, the U.S. Environmental Protection Agency ("EPA") issued the National Emission Standards for Hazardous Air Pollutants (also known as Mercury and Air Toxics Standard, or MATS).[54] This rule restricts mercury emissions from solid fuel- and fuel oil-fired power plants. It requires uncontrolled or inadequately controlled coal- and oil-fired power plants to install and operate (or upgrade existing) environmental controls by April 2015 (extended to April 2017 for certain plants exempted due to reliability needs). Violations trigger penalties.

38. PREPA's fleet is vulnerable. Fourteen of its units, comprising about 2,900 MW of oil-fired capacity (over half of PREPA's nameplate capacity), are subject to MATS. For many of these units, PREPA is hoping to avoid penalties by invoking two exemptions.

39. The first exemption is called "limited use." Units that operate below an eight percent capacity factor can be designated as "limited use."[55] These units act mostly either as backup or peakers,[56] thus limiting their emissions. In the IRP proceeding, PREPA revealed plans to designate eight steam units as "limited use," starting in April 2015. But due to outages in other plants, PREPA in the past year has used these steam units more than the "limited use" designation allows.[57]

40. The second exemption is for simple-cycle and combined cycle ("CC") stationary combustion turbines ("CTs").[58]

41. To handle compliance for the remainder of its fleet (*i.e.*, the portion other than the limited use units, the CCs and the CTs), PREPA has three options: install stack controls to

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[53] October 20, 2016 Technical Conference Call Recording at 2:50 on docket No. CEPR-AP-2015-0001.

[54] *See generally* https://www.epa.gov/mats.

[55] A unit's capacity factor is a fraction. The numerator is its actual output over a specific period of time. The denominator is the output that would occur if it operated continuously at its full nameplate capacity over that same period of time.

[56] A backup unit is called on to operate when other units fail. A peaker is used at times of system peaks, *i.e.*, very high total demands on the system.

[57] PREPA Ex. 3.0, ll. 324-331.

[58] 77 Fed. Reg. 9309.

limit emissions, find a way to bring natural gas to those units, or retire the units. Early in 2011, PREPA designed a MATS compliance plan around building the Aguirre Offshore Gas Port ("AOGP"), an offshore gasport near Salinas to feed the Aguirre steam and combined cycle units. With this plan, PREPA would convert its largest plant to gas, then expand its facility at Aguirre, thereby allowing much of its remaining fleet to retire. The plan relied on an assumption that (a) AOGP would be built on time; (b) PREPA could keep its "limited use" units to below an eight percent capacity factor; and (c) EPA would allow PREPA to maintain some non-MATS- compliant units until the Aguirre site could be expanded.[59]

42. As detailed in Part Two-III.C.3, AOGP is not on track. Its target service date of 2014 has slipped to 2018. This Commission's IRP order (discussed in subpart III.E below) has limited the spending associated with AOGP, pending a comprehensive and reliable economic analysis.

43. Meanwhile, PREPA's other compliance options are shrinking. PREPA is non-compliant today at many of the same units for which it was non-compliant in 2011. Under current schedules, compliance at Aguirre cannot be achieved until late 2018 at the earliest. With the AOGP delays, overall system compliance under PREPA's current plans may take until 2022 or later.[60]

E. The Approved Modified Integrated Resource Plan

44. Prior to Act 57-2014, PREPA's long term planning was distorted by political considerations, resulting in operational instability, expensive changes in direction and delays in and stoppages of necessary infrastructure projects. Lack of effective long term planning led PREPA to defer investments in maintenance of and upgrades to its aging infrastructure and to spend customer and investor funds on projects—some later canceled after expensive beginnings—lacking adequate economic or operational feasibility analysis.[61]

45. To address this problem, Act 57-2014 requires PREPA to propose, and the Commission to approve, an integrated resource plan ("IRP"). An IRP is a roadmap to providing least-cost, reliable electric service at just and reasonable rates. Using a 20-year time horizon, it identifies the fuel mix, capital investments and maintenance expenditures necessary to ensure safe and reliable operation of PREPA's system, while ruling out projects that are wasteful and unnecessary.

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[59] Fisher-Horowitz Report at 38.

[60] *Id.* at 39.

[61] See, *e.g.*, PREPA Ex. 2.0 at 5 (Direct Testimony of Lisa Donahue, referring to the "influence of political considerations that have negatively affected PREPA's ability to make effective long-term strategic and management decisions").

46. Acting under Act 57-2014, the Commission on September 26, 2016[62] issued its Final Resolution and Order on PREPA's IRP. That Resolution and Order approved a "Modified IRP." The Modified IRP established a path for replacing old, costly plants with more efficient generating units, renewable resources, energy efficiency and demand response programs and distributed generation technologies.[63] The Modified IRP provides for the modernization of Puerto Rico's energy sector, by moving away from outdated fossil fuel generation and towards cost-effective and environmentally conscious alternatives.

IV. Practical limits on the pace of improvement

A. PREPA's culture

47. For the first time since its creation in 1941, PREPA is now accountable to an independent, professional, fact-based regulator. In creating this Commission, the Legislature intended us to use our legal powers to transform PREPA into a modern, efficient, customer-responsive utility. This transformation will take time. PREPA will not become more efficient merely because of this rate order. Many steps lie ahead—infrastructural, operational, administrative, financial and physical—before positive results will be seen and felt by PREPA's customers. Investments to improve reliability, reduce dependence on fossil fuel, accommodate renewable energy and improve reliability will take years. Just as paying for our children's education imposes costs today but benefits for a lifetime, so will paying appropriate electricity rates today promise improvements for our future. It is to make that promise a reality that this Commission will insist—as it does throughout this Order—that PREPA's spending be subject not only to budgetary rigor but also performance accountability.

48. The transformation of PREPA will require deep commitment not only from bondholders and customers, but also from PREPA's Board, executives, managers, employees and unions. The quadrennial turnover of managers with each new political administration, the political pressures from elected officials to avoid necessary rate increases, the failure of government agencies to pay their electricity bills on time, the irresponsible initiation and termination of expensive capital projects, the high levels of electricity theft, the work rules that prevent efficient use of well-paid employees, the poor recordkeeping and antiquated administrative procedures,[64] the compensation schemes that prevent PREPA from recruiting and retaining qualified and experienced personnel[65]—all this must come to a halt, to be

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[62] The Final Resolution and Order was issued on September 23, 2016 and notified and filed by the Clerk on September 26, 2016.

[63] IRP Final Resolution and Order, CEPR-AP-2015-0002 at 11, ¶ 30.

[64] We will discuss those details in Parts Two-III and Two-VI.

replaced by a universal commitment to the good of the Commonwealth. This Commission is committed to embodying that commitment.

B. The Commission's constraints and intentions

49. PREPA has not revised its base revenue requirement and rate designs since 1989.[66] PREPA's rates thus reflect an outdated cost structure bearing little resemblance to PREPA's actual expenditures and its need for revenues. Unsurprisingly, PREPA's cost and budget records are, as of today, not well-suited for the Commission's complex task of establishing rates that reflect costs and budgets accurately.

50. In other jurisdictions, setting utility rates is a standard, predictable, well-understood procedure based on standard, predictable, well-understood accounting records. In this first rate case, nothing was standard, predictable or well-understood. The Commission had to create new procedures and filing requirements, while PREPA had to comply with those procedures and filing requirements using outside consultants who had to contend with PREPA's insufficient accounting materials, budgeting procedures and forecasting methods. The Commission would be less than candid—in a context where candor is necessary—to suggest that this first rate case, resolved within a statutory time period shorter than that available to most jurisdictions, was blessed with precision. As we will discuss throughout Parts Two (the FY2017 revenue requirement), Three (revenue allocation and rate design) and Four (methods for setting future revenue requirements), the absence of reliable cost and budget information was an unavoidable problem—but one that our many Directives in this Order will correct for the future.

51. A distinct problem facing the Commission is the inability to disallow imprudent costs once they have been incurred. We have no doubt that PREPA's current rates are recovering costs that reflect waste and imprudence. Were PREPA a for-profit, investor-owned utility, *i.e.*, a utility whose owners are profit-seeking private shareholders, its regulator would have the practical ability and legal authority to remove those costs from rates, so that they were borne by the shareholders (who hired the executives who made errors) rather than the customers. Such disallowance of imprudent cost is standard practice in the regulation of investor-owned utilities; indeed, it is threat of such disallowance that induces utilities to avoid incurring imprudent costs.

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[65] PREPA's ability to establish modern and effective compensation schemes designed to reward productivity and performance, is limited or prohibited by government laws and regulations. According to PREPA witness testimony at the technical hearing, those limits and prohibitions have reduced PREPA's overall workforce productivity to well below industry standards; indeed, to productivity losses exceeding 30%. We also heard testimony from the Customer Service Director, and the Director of Transmission and Distribution, regarding difficulties in staffing.

[66] The exception is fuel and purchased power costs. As those costs change from time to time they are recovered from ratepayers through special adjustment clauses.

52. But PREPA is not an investor-owned, profit-making utility. As a public corporation and instrumentality of the Commonwealth of Puerto Rico, it does not have shareholders to bear its unreasonable costs. All of PREPA's costs must be paid by its customers, including those costs which have already been incurred or spent, regardless of their prudence or reasonability. The Commission cannot overstate its regret at having to compose the preceding sentence.

53. But that regret is our stimulus. While the Commission cannot prevent past imprudence, it will use every power it has to prevent future imprudence. It will do so in several ways. First, throughout this Order (and especially in Part Four), the Commission makes clear that future spending must comply with budgets, that budgets must be approved by the Commission, and that PREPA may not overspend its budgets. Second, while the Commission cannot reverse costs from the past, it can and will expose the imprudent actions from the past to determine where PREPA must improve. It will do so in the upcoming performance proceeding.[67] That investigation will: (a) establish standards and metrics for improvement and excellence; (b) establish the consequences for PREPA and its executives, managers and employees should PREPA not satisfy those standards and metrics; (c) determine, through a third-party investigation, PREPA's ability to achieve the standards and metrics; and (d) identify and prescribe the actions the Commission and PREPA must take to ensure that PREPA develops that ability.

54. In this discussion of the Commission's constraints and intentions, one key question remains: With respect to the prospective (as opposed to the already-incurred) costs that are within the FY2017 revenue requirement we approve, how can the Commission ensure their reasonableness—and has it done so here?

55. In this first rate proceeding, the Commission faced a practical reality: the combination of the short 180 days for this proceeding allowed by statute, and the insufficiency of PREPA's project-specific record-keeping (as detailed in Part Two) made it impossible to conduct a dollar-by-dollar investigation into prudence. The Legislature has required that the Commission use its powers to guide PREPA toward an efficient system at a just and reasonable cost."[68] But the Legislature could not have meant for this result to appear overnight, or even after a single rate case. This rate case is a step in a transition, but it is only a step. It must be judged in terms of the progress it makes given the information it had; it cannot be judged in terms of the distance it cannot practicably travel. That judgment must take into account these five factors:

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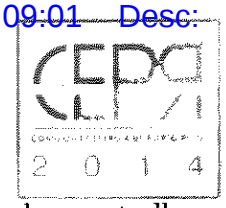
[67] In Re: Notice of Investigation to Identify Opportunities to Improve Performance of the Puerto Rico Electric Power Authority, issued on November 16, 2016; Docket No. CEPR-IN-2016-0002 ("The Commission's long-term goal is to transform the electricity industry on this island to be comparable to the most-efficient, most successful electricity utilities in other jurisdictions—not just by today's standards, but by the standards of the electricity industry as it continues to evolve and progress").

[68] Statement of Motives, Act 57-2014.



1. The essential message from Drs. Fisher and Horowitz, documented repeatedly in their 200-page report and detailed in Part Two below, was that PREPA's proposed revenue requirement was "too low"; that for several recent years and including FY2017, PREPA had imposed artificial budget caps on its operations, maintenance and capital expenditures that its physical system urgently needs. Consequently, where they found fault with particular costs, such as excess costs in the "administrative and general" (A&G) category, they reduced the allocation in that category and moved the funds into more deserving categories. In the case of AOGP, they recommended removal of most costs because PREPA had failed to show that this option was the least-cost option, and the Commission accepted their recommendation—as explained in Part Two-III.C.3.d.

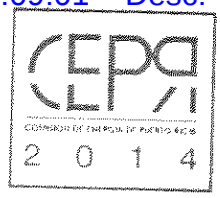
2. Where the meager information available did allow Drs. Fisher and Horowitz to make judgments about the reasonableness of expenditures, they did, as explained throughout Part Two. In those instances, they found that PREPA's costs were not inconsistent with the costs of typical utilities.

3. As we make clear in Part Four, prospective spending by PREPA must be confined to budget figures that the Commission approves in advance. This approach prevents imprudent costs not yet incurred (and therefore disallowable by the Commission) from being incurred (and thus not practically disallowable by the Commission).

4. Through the numerous reporting directives established in Part Two, and the prospective budgeting procedures established in Part Four, we have the means to identify and prevent imprudent costs before they are incurred.

5. Not a single intervenor identified any imprudent costs. Some argued that PREPA should have won more concessions from the bondholders, but as we explain in Part Two-III.E., that question is beyond our jurisdiction.

56. In sum, the Commission had to use its independence and its expertise to find a reasonable balance among the goals of PREPA's financial stability, the system's dire need of more investment, and the effects on ratepayers and Commonwealth's other relevant policies. The Commission did not defer to PREPA's presentations or its positions. The Commission instead retained its own consultants. They sought and analyzed information through hundreds of requests and several detailed technical conferences. They then submitted five expert reports totaling nearly 500 pages of densely analyzed information, and then appeared to be examined by any party that wished. The Commission itself, prior to drafting this Order, reviewed all that information, and retained an advisor who spent several dozen hours examining under oath all the expert witnesses, including PREPA's top management and key advisors. Based on those efforts, the Commission has modified PREPA's request and found that the resulting revenue requirement and associated rates are just and reasonable.



V. The effect of the rate increase on Puerto Rico

57. Multiple intervenors raised concerns about whether any rate increase is affordable. The most sophisticated argument came from Dr. Cao on behalf of ICSE-PR. He offered a multi-factor regression analysis to estimate the economic impact on Puerto Rico of a rate increase by PREPA. He estimated that a 4.2 cent/kWh increase in electric prices would reduce real GNP in Puerto Rico by 1.05%. Based on that estimated GNP reduction, Dr. Cao estimated a loss of approximately 11,000 jobs, an increase in the inflation rate, and a kWh demand reduction for PREPA of approximately 0.83%.

58. We do not dispute the proposition that higher electric prices can affect an economy negatively. If that were the only consideration, the Legislature would require PREPA to provide electricity for free. But there are other considerations. The first is statutory. The Commission must set rates sufficient to get PREPA the funds to provide reliable service. The second is practical. Until PREPA returns to financial health, it will have no access to new outside capital. Without that access, Puerto Rico faces two choices: continue to make current ratepayers pay for long-term capital expenditures (as explained in Part Two-II.B), or fail to make the investments that are necessary to fix a deteriorated physical system and prepare it for a future of renewable energy. The first choice is painful; the second choice is untenable. Making current ratepayers pay for long-term capital expenditures, rather than allocating responsibility for those expenditures over the long lives of the associated assets, is one of the reasons rates must rise today. Deferring necessary investments will lead to more and longer outages—events no less likely to dampen Puerto Rico's economy than a rate increase. Arguments against the rate increase fail to address the effects of no rate increase. The Commission cannot make that error.

59. Returning to Dr. Cao's analysis: Commission consultant Hill points out that the variables in Dr. Cao's regression model (economic growth in the U.S., the prime rate of interest, the average price of electricity, and a factor that adjusts for serial correlation between variables in the regression) are not the only variables that matter.[69] Mr. Hill noted that when PREPA's prices dropped due to the drop in oil prices from 2012-2016 (causing PREPA's electricity price to decline by much more than the increase assumed by Dr. Cao), there was not an increase in GNP, employment and kWh sales comparable to the decreases that Dr. Cao's model predicted for a rate increase in 2017.[70] But the dramatic drop in electricity price produced no economic gains. As shown on Dr. Cao's Table 5-1, the Puerto Rico GNP actually declined from 2012 to 2016 by around 3.4-3.5%. From this data, Mr. Hill concluded that Dr. Cao's "model did not accurately predict the actual changes in economic

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[69] Hill Report at 38-40. That passage is the evidentiary basis for the remainder of this paragraph.

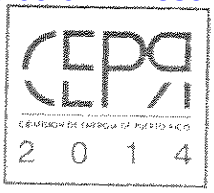
[70] Dr. Cao's Table 5-1 shows an electricity price of 27.9 cents/kWh in 2012 and 17.95 cents in 2016. That decline is similar to that shown by ACONER witness Previdi. Such data represent a decline 2 to 3 times the increase Dr. Cao used in his model (4.2 cents/kWh).

growth." Mr. Hill also concluded that: "A relatively high correlation of the variables used in the regression [...] does not necessarily imply causation, *i.e.*, the variables selected are not necessarily those that precisely determine the value of the dependent variable (in this case, GNP in Puerto Rico) [...]" Mr. Hill also notes that Dr. Cao did not take into account the effects on Puerto Rico's economy of the continued deterioration of PREPA's physical plant, or the effects on lenders' willingness to lend in the absence of a rate increase. Dr. Cao implicitly assumed that PREPA's quality of service and lender willingness would be unaffected by the absence of a rate increase.

60. While we appreciate the quality of Dr. Cao's contribution to this proceeding, we must look at the full picture. That picture includes the consequences of no rate increase. Those consequences, we have determined, are more negative for Puerto Rico than the consequences of a rate increase. In sum, the arguments against a rate increase ignore its consequences. Without higher rates, PREPA will be unable to make contractual debt payments—even as those payments have been reduced by the bondholders. That means default and lawsuits in the short term, and reduced lender confidence in the long-term. As Mr. Hill explained:

> The alternative to allowing a rate increase would be to invite default for PREPA. In that event, the Company would be heavily involved in legal struggles with its creditors, would lack cash flow for maintenance and it is quite likely that electricity service would suffer substantially. [...] If the cost to Puerto Rico of an unreliable electric system is greater than the impact of a rate increase, which I believe is a reasonable assumption, a rate increase would appear to be the preferable choice.[71]

[71] Hill Report at 40.



PART TWO:
The FY2017 Revenue Requirement

61. The Commission's first task is to establish PREPA's "annual revenue requirement." An annual revenue requirement is the total dollars a utility must receive during a specified future year (called a "rate year") to cover its reasonable expenses (*e.g.*, operating expenses, taxes and depreciation) and to pay the principal and interest on the debt due in that year.

62. In this Part Two we begin by describing PREPA's proposed revenue requirement. (Part Two-I). We then address two dimensions of the analytical framework necessary to determine the revenue requirement; specifically, the "test year" and the revenue requirement equation (Part Two-II). Then we discuss the details of the proposed revenue requirement—operating expenses, fuel and power purchase expense, capital expenditures, contribution in lieu of taxes, subsidies, finance costs and income from other sources (Part Two-III). With those details established, we calculated the revenue increase required to cover those expenses (Part Two-IV). Next, we explain how this revenue increase will be reconciled with the provisional rate increase that went into effect in August 2016 (Part Two-V). Finally, we identify necessary improvements in PREPA's financial reporting, to increase our ability to assess PREPA's costs (Part Two-VI).

I. PREPA's proposal

63. PREPA originally proposed a total revenue requirement for FY2017 of $3.501 billion, as shown on Attachment 1. This $3.462 billion consists of a base rate revenue requirement of $2.998 billion, plus the $503 million Transition Charge to be collected by the PREPA Revitalization Corporation (PREPARC).[72] Because the amounts recovered through the Transition Charge are outside the scope of this proceeding, we address in this proceeding only the $2.998 billion.[73]

64. PREPA's original application showed, for FY2017, a "deficiency" (the excess of the proposed revenues over the amounts that would be collected at PREPA's current rates) of approximately $222 million. In its rebuttal submissions (PREPA Exs. 23.0 and 23.1), PREPA

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[72] The Transition Charge amount includes $394 million of debt service for securitization and $109 million for gross-up for the collections lag and uncollectible revenue. These items were detailed in the Commission's Restructuring Order issued on June 21, 2016 in No. CEPR-AP-2016-0001.

[73] PREPA originally proposed a total revenue requirement for FY2017 of $3.462 billion, as shown on PREPA Schedule A-1 REV. This amount consists of a base rate revenue requirement of $2.958 billion plus $503 million for Transition Charge to be collected by the PREPARC. However, this total revenue requirement was net of PREPA's Other Income of $38,925,000. Therefore, PREPA's total revenue requirement, as originally proposed by PREPA, is $3,501,119,000 ($3.462,194,000 + $38,925,000). This result is shown in Column A of Attachment 1.

reduced its proposed deficiency from $222 million to approximately $178 million. The $44 million reduction resulted from the following changes:

1. Removing $37 million, associated with erroneous double-counting of subsidies. The double-count error occurred when PREPA's consultants included that amount in the proposed revenue requirement twice: once as a direct expense in the "subsidy" line item, and again as an increase in revenue requirement to compensate for the reduction in revenues from the subsidized customer groups.[74]

2. Making equal and offsetting adjustments to Fuel and Purchased Power Expense and Fuel and Purchased Power Adjustor Revenue of $182.4 million for "removal of 11% gross up."

3. Reducing Bad Debt Expense by approximately $6.5 million, based on the reduced amount of Revenue Requirement related to the revisions described in (1) and (2).

II. Revenue requirement framework: Test year and equation

A. Test year

65. In utility ratemaking, a "test year" is a prior 12-month period whose actual costs are used as a basis for predicting costs in the "rate year". The "rate year" is the first 12-month period in which the new rates will be in effect. In this first-rate proceeding, the rate year is FY2017: July 1, 2016 through June 30, 2017. To make predictions as accurate as possible, a test year should reflect as closely possible the conditions the utility will face, in terms of costs and sales, in the rate year.

66. PREPA's consultants used a test year of FY2014, because it was the most recent 12 months for which audited information was available. They then adjusted that data in multiple ways to take into account the following factors, among others: the Restructuring Support Agreement (RSA) between PREPA and certain bondholders (the agreement that affects which loans will be repaid through the Transition Charge rather than through the normal revenue requirement), the internal PREPA restructuring efforts (which efforts PREPA says is producing reductions in cost relative to FY2014 costs), PREPA's budgets for FY2015 and FY2016, the actual spending for those two years, and actual spending for the beginning of FY2017.

67. With all these post-FY2014 factors affecting the FY2014 test year costs, it is not clear to the Commission what role the FY2014 data played in establishing PREPA's proposed

[74] The items that were double-counted were $524,933 for the General Agricultural Service Tariff; $16,438,851 for Low-Income Consumer Subsidies (RH3, LRS); and $20,076,641 for the Fixed Public Housing Rate (RFR Tariff). *See* Attachment 3, page 4 and Attachment 4, page 2 of 2.

revenue requirement for FY2017. Commission consultants Smith and Dady viewed the FY2014 data as "stale" and "unrepresentative" of the costs underlying a FY2017 revenue requirement:

> [V]irtually every line item in PREPA's results of operations for FY2014 has been replaced by PREPA (or significantly adjusted to reflect) PREPA's FY2017 projected results. [...] In other words, other than PREPA using the FY2014 data to set up its revenue requirement insofar as reflecting the various categories in its calculation (*e.g.*, Labor and Non-Labor Operating Expenses, Bad Debt Expense, Debt Service, CapEx, etc.) the audited FY2014 data bears little resemblance to what PREPA is requesting in its filing for FY2017. In essence, PREPA has substituted its budgets and projections for FY2017 for the audited FY2014 results of operations and is using its FY2017 projections as the basis for its proposed revenue requirement.[75]

68. In the absence of current audited data, Smith and Dady relied on the following information to assess PREPA's proposed revenue requirement:

1. PREPA's operating results, unaudited, for the 12 months ended June 30, 2016, as stated on PREPA's Monthly Report to the Governing Board for June 2016.

2. PREPA's approved budget for FY2017.

3. PREPA's business plan (May 2016) and related materials addressing PREPA's efforts to create cost savings.

69. Given the multi-year gap between the FY2014 audited results and the FY2017 rate year—which itself is already half complete—this jumble of data was inevitable. For future rate proceedings, PREPA's test year must be the most recent fiscal year, adjusted for known and measurable changes from that year.

B. Revenue requirement equation

1. Equation options

70. A revenue requirement equation calculates the number of dollars a utility needs in a year to cover the expenditures required to serve its customers at reasonable cost. For a typical utility that is owned by private shareholders, the equation looks like this:

Annual revenue requirement = expenses + cost of capital

where expenses include operations and maintenance costs (*e.g.*, labor and fuel), taxes, and depreciation; and cost of capital includes (a) interest payments to lenders plus (b) return on

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[75] Smith-Dady Report at 9. Emphasis supplied, citation omitted.

shareholder equity (the latter defined as commission-authorized return on equity multiplied by total equity). In the context of a utility with private shareholders, this equation (which reflects capital from both lenders and shareholders) is often called the "rate base-rate of return" model because capital expenditures become the rate base on which the investors who finance those expenditures earn a return.

71. PREPA has no private shareholders; its owner is the government (such utilities are often referred to as "public power" utilities, to distinguish them from "investor-owned" utilities). Therefore, "cost of capital" in the above equation consists only of principal and interest on PREPA's outstanding debt.

72. For a financially stable utility, the foregoing summary of the revenue requirement equation would suffice. But PREPA's financial condition is not stable. The Commission, therefore, must make adjustments to the equation, specifically relating to capital expenditures.

73. Capital expenditures produce plants and equipment that last for many years. They provide benefits to customers over that time period. In normal situations, *i.e.*, when a utility is financially sound, it finances its long-term expenditures with long-term debt, raised from private investors in the capital markets. The utility's monopoly over its customers makes it a relatively low-risk investment. When an investment risk is low, the interest lenders require to make a loan is low as well.[76] The utility then pays back that debt, year-by-year over the life of the loan. To have the funds to make those loan payments, the utility sets its rates so that each year it recovers from its ratepayers the amount that it pays to its lenders on a given year. In this way, there is synchronization among four things: the life of the assets financed by the loans, the payments to the lenders, the charges to ratepayers, and the benefits ratepayers receive from the assets.

74. PREPA is not in a normal situation. PREPA must make capital expenditures this year that will benefit ratepayers in future years. But because of its weak financial condition, lenders are not willing to make long-term loans. Therefore, the only source of funds for long-term capital expenditures are today's customers. This reality produces several options for calculating PREPA's revenue requirement for FY2017.

75. PREPA's revenue requirement panel (Pampush, Porter and Stathos) discussed three different possible equations (sometimes called "models"). Commission consultants Smith and Dady described a fourth, hybrid model that follows traditional ratemaking guidelines for public power utilities. Each method is described and assessed here.

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[76] In this context, the term "require" refers to the commercial reality that investors have no obligation to invest in any particular company. Whether lenders or shareholders, they will invest in a company only if their expected returns from that investment match or exceed their "required" returns—the return level that persuades them to invest in a particular company rather than in alternative opportunities.

1. ***The rate base/rate of return ratemaking model*** (labeled by PREPA's advisors the Accrual Basis approach): This method calculates revenues as

Operating Expenses + Depreciation + (Rate Base x Rate of Return).

This model is widely used in the mainland U.S. to set rates for investor-owned utilities, which finance their capital expenditures with both debt and shareholder equity. While it is used by some public power entities, this model is not appropriate for PREPA, which has negative equity.

2. ***The debt service coverage ratio (DSCR) model*** (labeled by PREPA's advisors as the Cash Basis approach): This method calculates revenues as

Operating Expenses + (Debt Service x DSCR).

It is used regularly in the public power industry. This approach does not work well for PREPA at this time, because it assumes that all capital expenditures will be funded by debt service. As explained above, the capital expenditures PREPA needs to make today will not be financed with new debt because there are no available lenders of new debt. Smith and Dady explained that PREPA can meet some of its capital expenditure needs through the cash flow available from the DSCR, to the extent the DSCR exceeds the 1.20 minimum required by the 1974 Trust Indenture. (Commission Consultant Hill has proposed a DSCR of 1.40, which we adopt and discuss in Part Two-III.E below.) But in FY2017 (and likely several future years), PREPA needs to make capital expenditures larger than the amounts made available by that cash flow. When PREPA returns to financial health, this approach will work well because PREPA will use capital markets to issue debt in amounts sufficient to meet capital expenditure requirements. But for at least this year, a different model is necessary.

3. ***The Modified Cash Basis approach***: This method establishes a revenue requirement with this equation:

Operating expenses + debt service + capital expenditures.

It recognizes the absence of external financing by recovering capital expenditures from ratepayers in the year incurred (rather than spreading recovery over the life of the loan or the life of the associated asset). This method thus differs from the DSCR method because it includes in the current revenue requirement the full amount of capital expenditures that the utility expects to make in the rate year. Its main problem—unavoidable in PREPA's context—is that it creates a mismatch between (a) the time period in which ratepayers pay for the plant and infrastructure (the year in which the expenditures occur) and (b) the time in which the associated utility infrastructure provides benefits to customers (the infrastructure's useful life or, if financed with bonds, the period in which the bond financing would be outstanding). In effect, current customers lend the utility the funds needed for future plant, with no prospect of having those funds repaid. The Commission agrees with

Smith and Dady that this method is available only in PREPA's current circumstances, where it has no access to capital other than from its customers.

4. ***The DSCR with Capital Expenditures***: The Commission's advisors, Smith and Dady, recommend a variation on the third option. They label their option "Modified DSCR," or "DSCR with Capital Expenditures." Their formula is:

Revenues = Expenses + (Debt Service x DSCR) + Additional CapEx.

This method, based on the DSCR method, explicitly accounts for PREPA's dependence on ratepayers rather than capital markets to fund capital expenditures. Revenues are established to cover all operating expenses, plus debt service costs adjusted to account for debt service coverage. The cash flows available from the debt service coverage will be available to fund expected capital expenditures. Then, to the extent that necessary capital expenditures exceed the cash flows available from debt service coverage, an additional amount (termed Additional CapEx in the formula) is included to provide the necessary funds.

76. Smith and Dady caution that their approach is not a permanent ratemaking approach for PREPA; it is a temporary means of deriving an emergency component of the revenue requirement. It should be used only while PREPA lacks access to external financing.

77. Turning to accounting treatment: The additional capital expenditures allowed in this model originate with ratepayers, not investors. If those amounts had originated with investors, then the ratepayer payments reflecting those amounts would be treated for accounting purposes as revenues. But because these funds originate with ratepayers, Smith and Dady recommend, and we agree, that these funds should be accounted for as "contribution in aid of construction." On PREPA's balance sheet, then, this customer-contributed funding of capital expenditures should be an offset to PREPA's investment in plant.

78. PREPA opposed this recommendation, arguing that revenues from customer-funded CapEx included on a dollar for dollar basis should be modeled as operating expense and accounted for as changes to net position, not as contributions in aid of construction. We disagree. First, operating expenses and capital expenditures are ordinarily treated differently in several respects. For example, as discussed in Part Three-III.C.1.a, operating expenses are costs that are incurred in a period and are recognized for accounting purposes in that period. Capital expenditures, on the other hand, are recognized in more than one period.

79. Second, the FERC Uniform System of Accounts ("USoA") requires utilities to follow a particular accounting system and provides specific accounts in which to input capital expenditures and operating expenses. Capital expenditures are treated as Construction Work in Progress (FERC USoA account 107) and eventually as Utility Plant in Service (FERC USoA account 101). In the case of customer funding of a plant (in the form of contributions toward that plant when the plant is initially being replaced or placed into service) is accounted for as credits to FERC USoA account 101, Plant in Service.

80. We see no reason for PREPA to deviate from the accounting treatment of ratepayer funded capital expenditures provided in the FERC USoA. Ratepayers are funding the capital expenditures contained in PREPA's base rate revenue requirement on a dollar-for-dollar basis. Requiring the customer contribution to PREPA's utility plant to be accounted for as customer contributions is appropriate accounting. Accordingly, PREPA will record the amount of ratepayer funding of its FY2017 capital expenditures that is in excess of the DSCR coverage margin as a credit to account 101, Plant in Service.

81. This accounting treatment is not only consistent with the FERC USoA, which PREPA is required to follow, it also acts as an appropriate safeguard to protect customers prospectively from being double-charged for the same capital expenditure investment. The Commission recognizes that ratepayer funding of PREPA's FY2017 capital expenditures on a dollar-for-dollar basis, in the current period, is necessary due to PREPA's inability to access capital markets at a reasonable cost. The Commission intends that this extraordinary ratemaking treatment will only continue to apply until PREPA's financial stability has been restored.

82. The Commission adopts the "DSCR with Capital Expenditures" approach. The application of that approach to PREPA's full revenue requirement is set forth in Attachment 1. Line 24 of Attachment 1 shows $153.5 millions of ratepayer-funded capital expenditures. That amount is the portion of the full amount not covered by the debt service coverage ratio.[77]

2. Directives

a. PREPA shall use the Modified DSCR ratemaking model for purposes of determining PREPA's base rate revenue requirement. This requirement shall apply for FY2017, and for future fiscal years until the Commission finds that PREPA has access to external debt financing on reasonable terms. Once PREPA has regained access to the capital markets on reasonable terms, the Commission will require PREPA to use the DSCR-based ratemaking methodology, under which capital expenditures incurred in a particular year are recovered ratably over the life of the equipment or asset funded by those expenditures.

[77] See also Attachment 3, at p. 2, showing the division between the amount of capital expenditure funded through the DSCR and the remaining amount funded by the "capital expenditure" term in the equation.

b. While using the Modified DSCR approach, PREPA shall account for the ratepayer funding of PREPA's capital expenditures as contribution in aid of construction.

III. Specific components of the revenue requirement

A. Operating expenses (other than fuel and purchased power)

1. Overview

83. Operations and Maintenance ("O&M") expense comprises five major categories: generation, transmission, distribution, customer billing, and administrative and general. To project the O&M revenue requirement for each of those areas, PREPA first computed the sum of (1) all projected total O&M labor expense and (2) all projected non-labor O&M expense, then subtracted (3) projected non-fuel savings arising from performance improvements (projected savings were in the following areas: reductions in contributions in lieu of taxes; increased charges for reconnection; reduced theft; improvements in fleet, shops, procurement and inventory; savings from employee attrition; and medical benefit efficiencies). These three steps gave PREPA total O&M expense. For the purposes of its rate case petition, PREPA then allocated this total among the five areas using ratios that each area's spending had to the total operation spending in FY2014. This step produced the following amounts:

Generation:	$122.4 million
Transmission:	$34.2 million
Distribution:	$169.3 million
Customer Billing:	$84.9 million
A&G	$148.9 million

84. These amounts (which include labor and non-labor costs) total PREPA's proposed FY2017 operating expense budget (excluding fuel and purchased power) of $559,752,076.[78]

85. The Commission must decide both, whether PREPA's aggregate operations budget is reasonable and also whether PREPA's proposed operations expenses by functional area are reasonable; specifically, whether they reflect cost-effective operation and management of PREPA's physical facilities, its customer service operations and other activities.

86. Before assessing PREPA's proposals in each of these categories, we discuss the challenges we faced in evaluating PREPA's proposals. Ultimately we approve a FY2017 revenue requirement for all Operating Expenses of $2,631,570,000, consisting of:

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[78] Sum of FY2017 Non-Fuel O&M Expenses, Schedule E-6 REV; Schedule A-2 REV.

Operating expenses other than fuel and purchased power: $694,390,000
Fuel: $1,117,273,000
Purchased power: $819,907,000

2. Challenges in projecting operating expenses

a. Declines in PREPA's operational spending

87. In each major area—generation, transmission and distribution ("T&D") and customer service—PREPA's budgets dropped from FY2010 to 2016, and especially sharply between FY2014 and FY2015. Non-labor spending on every area, except A&G, has declined by 28% since FY2010. Beginning in FY2014 PREPA has been underspending its already-reduced budgets: The average portion of PREPA's generation expense budget that went unspent doubled from 4% to 8%; the proportion of unspent customer service budget more than tripled over this period. The T&D area also began to underspend its budgets.[79]

88. As with capital expenditures (addressed in Part Two-III.C), PREPA's operational spending has been based not on actual needs but on overall ceilings rooted in political concerns about rate increases—a fact documented by Drs. Fisher and Horowitz and confirmed by PREPA's officials at the Technical Hearing. These spending patterns coincide with the system's degradation described in Part One-III. As PREPA stated:

> [T]he effects of T&D work force reduction (~22% from Jan 2014 to Jul 2016) have been significant on transmission and distribution system maintenance. These effects have been exacerbated by a shortage of funds necessary to execute a well-planned preventative maintenance program. One direct effect of the work force reduction has been the reassignment of multiple construction crews to focus on reactive maintenance instead of preventative maintenance and new construction. [...] These effects have led to the steady decline in transmission and distribution system maintenance and performance across key performance indicators including CAIDI since 2014.[80]

Similarly:

> The effect of generation work force reduction (~23% from Jan 2014 to Jul 2016) on generation maintenance has been significant particularly when combined with shortage of funds to use third party labor to perform maintenance activities. The workforce reduction has affected not only the resources that performed maintenance planning/monitoring but also those that executed the maintenance. This resulted in a migration from preventive

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[79] Fisher-Horowitz Report at 198-199.

[80] PREPA's response to CEPR-RS-03-03 of the Commission's Sixth ROI (August 22, 2016).

> focused maintenance to a more basic/corrective focused maintenance to maintain units operating with limited resources and funding. That combined with the departure of critical operational experience from the power plants (not just in maintenance) increases the severity of the problem. Preventive maintenance in older units like PREPA's is particularly critical and if relaxed over a period of time leads to increased frequency and duration of forced outage events as have been noticed in recent times.[81]

89. PREPA has cited "[l]oss of a significant number of experienced personnel," "insufficient staff to perform all the necessary maintenance work," and "deferments on paying vendor lead to delay in receiving materials" as key causes of its forced outages.[82]

b. Increases in A&G spending

90. In contrast to these spending declines on generation, transmission, distribution and customer service operations, PREPA's spending on Administrative and General operations has been increasing. PREPA's non-labor A&G spending has increased by approximately $50 million since FY2010.[83] Indeed, our consultants found that PREPA's spending last year on miscellaneous A&G-related expenses was more than its entire proposed budget for generation expenses in FY2017.[84]

91. Documentation of and explanations for these increases were vague. At the Technical Hearing, PREPA's officials attributed some of this spending to the hiring of restructuring experts and to fees paid to bondholders who agreed to forbear from declaring PREPA in default (PREPA expects a reduction in restructuring costs this year). The Commission recognizes that such experts are costlier than employees, do not represent a permanent increase and are essential to PREPA's transformation. Still, in the future, PREPA must provide more transparency about its A&G costs. We will address the documentation problem later in this Order.

c. Problems in documentation

92. In typical rate proceedings, the utility supports its operational expense requests with documentation of planned maintenance and operational activities, expected staffing

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[81] *Id.*

[82] PREPA's response to CEPR-JF-01-16 of the Commission's Sixth ROI (PUBLIC; August 23, 2016). See also CEPR-JF-01-16 Attach 01 (PUBLIC).pdf at 3. Commission's Sixth Request of Information (July 29, 2016).

[83] Fisher-Horowitz calculation based on values provided in CEPR-AH-06-13 Attach 01.xslx of the Commission's Fourteenth ROI (November 7, 2016).

[84] Fisher-Horowitz Report at 202.

requirements, expected spending levels, and reserves for unplanned occurrences. There is a plan and a budget. PREPA is not in a typical situation. PREPA has never sought a rate increase from an independent commission. As we will show here, its proposed revenue requirement is not well-connected to any plan or budget.

(i) The total budget

93. The proposed revenue requirement results from four inputs: (1) expected labor spending; (2) expected non-labor spending; (3) expected savings from performance improvements; and (4) the allocation of the total labor budget among functional areas.[85]

94. As Drs. Fisher and Horowitz described it, this approach had multiple problems. First, the labor budget figure was not based on an analysis of system needs; it was based instead on assumptions about how many employees would remain with PREPA and how many would leave. It was as if the purpose of a revenue requirement was to pay employees rather than to provide service. Second, savings from improvements consisted of "hard-coded" values—bare numbers for increases in disconnection fees; theft recoveries; and savings in automotive fleet and shops, procurement, inventory management, medical benefits and headcount. PREPA gave verbal explanations, but did not connect those explanations to actual numbers. Third, PREPA also used, but did not justify, an inflation figure of 1%.

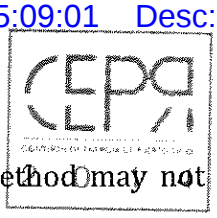
(ii) The allocations by area

95. Instead of allocating dollars according to the activities and costs of each area, PREPA's consultants simply allocated to each area that percentage of the proposed FY2017 total that matched its fraction of the FY2014 total.

96. This approach has multiple problems. As Drs. Fisher and Horowitz explained, there is no reason to think that each area's spending in FY2014 was the appropriate amount for that year; let alone that the FY2014 percentages would bear any resemblance to FY2017 needs. Among other things, the ratio of labor to non-labor expenditures in each area will vary between the two years. Moreover, the assumption that savings from performance improvements would be spread across its functional areas in the same proportions as identified above has no basis in facts or logic.

97. Distinct from the validity of the area-specific numbers is their use. It was not clear whether PREPA views these area amounts as binding budgets for each of the functional areas, or whether these numbers were intended simply to fill cells in the revenue

[85] Schedules A-1 REV, A-2 REV, and E-6 REV.



requirement spreadsheet. PREPA's consultants acknowledged that their method may not relate in any way to PREPA's actual budgeting process.[86]

98. Drs. Fisher and Horowitz described their frustrating—and frustrated—efforts to gather informational support for these numbers. Vague verbal explanations, work-papers from the wrong years, and circular references prevailed. As they stated: "We are unable to conclude with certainty that PREPA's budget as presented reflects its actual planned operational and maintenance activities in its various functional areas, because we have absolutely no evidence to that effect pertaining to either FY2017 or FY2016."[87]

99. During the Technical Hearing, PREPA's finance director revealed that PREPA does in fact have a bottom-up, by-directorate operations expense budget for FY2017, independent of its by-area allocation of operational expenses in the revenue requirement. PREPA did not disclose this budget to the Commission or its consultants prior to the Technical Hearing. This lack of disclosure had complicated our efforts to evaluate the operational component of PREPA's revenue requirement.

d. Reallocations and adjustments

100. Despite these evidentiary problems, Drs. Fisher and Horowitz found a way to evaluate PREPA's proposal: by comparing it to FYs 2010 through 2014—a period at the end of which PREPA's performance was, according to PREPA's Consulting Engineers, in "good repair and sound operating condition."[88] Based on this comparison, they recommended several adjustments that would "bring PREPA's operational budgets more in line with historical patterns and closer to what PREPA requires to run as safe and reliable a system as it ran in FY2014 and years prior."[89] The fundamental assumption underlying this analysis is that the operational cost needed to run PREPA's system safely and reliably has not fallen in the past two years (and may have increased due to the system's deterioration). After the conclusion of the analysis period used by Drs. Fisher and Horowitz, PREPA started a series of performance improvements. Therefore, historical data cannot provide insight into either the success of, or the correct allocation of, PREPA's expected savings from these initiatives. Drs. Fisher and Horowitz instead provided a series of adjustments to PREPA's pre-savings operations budget only. Those adjustments, which we adopt, are described next.

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[86] October 20 Conference Call Recording, Lucas Porter at 3:45:40 on Docket No. CEPR-AP-2015-0001.

[87] Fisher-Horowitz Report at 195.

[88] URS June 2013 Annual Report at 55.

[89] Fisher-Horowitz Report at 205-206.

(i) Reallocation of area budgets

101. Drs. Fisher and Horowitz consultants calculated the average percentages of labor and non-labor spending by each functional area for the period FY2010-FY2014. They did so because (1) that period "incorporates the largest amount of historical data available to us before the point at which PREPA's spending patterns shifted due to its financial constraints"[90]; and (2) the ratio of labor to non-labor spending by functional area was "fairly consistent" during these years. These reallocation factors, they conclude, "more closely match PREPA's actual historical spending patterns during years in which it was running a nominally functional system, especially in the area of non-labor spending."[91] The effects of this reallocation, and associated explanation, are set forth in Tables 32 and 33 of the Fisher-Horowitz Report.

(ii) Adjustments to the reallocated budgets

102. Our consultants then made "corrective adjustments" to these numbers,

> to bring PREPA's generation- and T&D-related operational spending more in line with what it appeared to actually require to operate a nominally safe and reliable system, as it did in the period between FY2010 and FY2014. We balance this aim with a desire to avoid unduly increasing PREPA's revenue requirement.[92]

103. These adjustments are shown in Tables 34 and 35 of the Fisher-Horowitz Report. For generation-related labor spending and T&D-related labor spending, they recommended an adjustment equal to one-third and one-half, respectively, the difference between the FY2017 value and the historical average. For the A&G and Customer Service labor budgets, they made no upward adjustment because "we have seen no evidence that labor shortages in A&G or customer service have negatively impacted the safety or reliability of PREPA's system [...]"[93] But they did recommend a reduction in the A&G spending of $17.7 million because they saw no connection between the growth in the A&G budget and the safety and reliability of PREPA's system.[94]

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[90] *Id.* at 206.

[91] *Id.*

[92] *Id.* at 210.

[93] *Id.* at 211.

[94] *Id.*

104. For non-labor costs, the consultants benchmarked all categories to PREPA's average spending in fiscal years 2010 through 2014, in part because PREPA has less control over these costs. They then recommended small increases in generation and T&D non-labor expenses.

105. Finally, the consultants made two other sets of adjustments to PREPA's non-labor operational expense budget, as shown in Table 36 of the Fisher-Horowitz Report. First, they added back in planned spending on non-labor categories that did not exist in FY2014 or before: specifically, restructuring fees and safety upgrades. Second, they added the cost of maintenance contracts relating to San Juan and Cambalache units, due to the re-categorization away from capital expenditures discussed in Part Two-III.C below.

106. All these adjustments are displayed in Table 38 of the Fisher-Horowitz report. We adopt those adjustments since they have been supported by expert evidence. In doing so, we emphasize the consultants' acknowledgement of the imprecision in their approach; they (and we) "do not endorse this methodology for PREPA's future budgeting practices."[95] The by-area operations expense allocations proposed by PREPA are disconnected from PREPA's actual operations budget, leaving us with little confidence that a directive to spend more or less in any given area will be meaningful. Moreover, PREPA's finance director explained that PREPA routinely reallocates funds during the year depending on changing circumstances. This practice makes it very difficult for us to determine actual expected spending levels. However, because the values arrived at by Drs. Fisher and Horowitz are based primarily on actual historical spending patterns, we are able to adopt these recommendations for the purposes of setting an overall revenue requirement for operations expenses on a by-area basis, and for the purposes of establishing values with which to compare PREPA's actual spending in the next rate case. The spending limits we apply below pertain to PREPA's budget irrespective of these expected savings.

107. Due to the lack of sufficient information, Drs. Fisher and Horowitz did not perform an analysis of PREPA's expected savings from operational performance improvements. We will accept PREPA's claimed aggregate performance improvement savings level of $102,750,000, with the exception of a $1,711,000 adjustment related to reconnection fees, as discussed below.[96] Because it reduces the necessary revenue increase it will cause PREPA to stretch to make those savings happen. We do not, however, find, PREPA's proposed allocation of these savings to be meaningful. For the purposes of this rate case, we accept PREPA's chosen methodology of reporting expected savings separately from expected spending, and of determining expected spending levels without taking into account the impact of performance improvements. We find this methodology to be appropriate in this proceeding as PREPA's performance improvement initiatives are in many cases still experimental in nature, as described by PREPA during the Technical Hearing.

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[95] *Id.* at 214.

[96] *See* Attachment 3, page 9.

108. Considering the above, we ultimately arrive at both pre-savings expected spending values, and revenue requirements with savings taken into account. The revenue requirement is what PREPA collects from ratepayers. The purpose of the more granular expected spending values is to enable the Commission to better evaluate PREPA's actual operational spending in the next rate case; they do not affect the rates we set in this case. We record these values here recognizing that PREPA may not achieve its expected performance savings. But given that our approved revenue requirement is a cap on spending, PREPA will need to seek our approval for additional spending should the savings not occur.

(iii) Achievability of spending as adjusted

109. At the technical hearing, PREPA officials stressed that even with sufficient revenues, they might not be able to hire all the employees they need, due to shortages in skilled labor in the Commonwealth, along with PREPA's suboptimal recruiting and hiring procedures. PREPA and its consultants also gave varying answers concerning the extent to which additional funds would enable PREPA to improve the state of its system in the near term. The Commission is not directing PREPA to spend money it cannot spend efficiently. But the Commission does want to assist a transformation in which the revenue requirement displays true needs rather than artificial caps. We emphasize, therefore, that PREPA's spending must be responsible. PREPA should leave funds unspent rather than spend them inefficiently. The Commission will determine the disposition of unspent funds in the next rate case.

110. In accepting our consultants' recommended adjustments, the Commission is increasing PREPA's proposed spending on operational expenses by $19.4 million.[97] We allow this increase because of the importance we place on PREPA achieving safety and reliability and because austerity has impeded PREPA's ability to achieve this goal. If PREPA uses these funds, we require PREPA to document how it used them to improve the system and the benefits that spending created, so we can better evaluate PREPA's actual needs in the next rate case.

(iv) Special adjustment relating to reconnection fees

111. PREPA originally proposed to increase its reconnection fees in two respects: first, to increase the fee to reflect the cost of reconnection; and second, to apply a penalty to the customers needing reconnection. PREPA characterized the incremental revenues associated with these increased fees as "performance improvement."

112. Under its current tariff rates, PREPA estimated annual revenues from reconnection fees of $5.1 million. At its originally proposed reconnection fees, PREPA

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[97] *See* Attachment 3, page 6.

projected an annual revenue of $15.3 million.[98] As explained in Part Three-II.E., the Commission is approving a fee structure reflecting cost only (no penalty). That approved fee structure produces revenue of $10.647 million.[99] This information is summarized on Commission Attachment 3, page 9.

113. In its original submission, PREPA treated the incremental revenue associated with the increase in reconnection fees that it expected for FY2017 as a reduction to O&M expense. Specifically, PREPA reflected a $3.75 million "performance improvement" amount as a reduction to FY2017 operating expenses.

114. PREPA's treatment of the incremental revenue associated with the increase in reconnection fee is incorrect. As indicated in the directive below, in future revenue requirements PREPA shall record the reconnection fee revenue as revenue, not as a reduction to O&M expenses.

115. For purposes of this proceeding, the Commission will adjust PREPA's submission as follows: We need to align the reconnection fees with PREPA's estimated cost of providing reconnection. Doing so reduces PREPA's assumed $3.75 million non-fuel "performance improvement" (the portion of total performance improvement associated with the reconnection fees) by $1.711 million.[100] The Commission then allocates this $1.711 million to the subcategories within FY2017 O&M expenses in the same manner that PREPA originally allocated the $3.75 million; specifically, according to the FY2014 ratios of those categories.[101]

(v) Directive

For future filings, PREPA shall record the reconnection fee revenue as revenue, not as a reduction to O&M expenses.

e. PREPA's "benchmarking" study

116. PREPA submitted testimony by Dr. Larry Kaufmann. This submission purported to be a "benchmarking" study showing that PREPA's costs were not too high. Dr. Kaufmann compared PREPA's operational expenses (less fuel and purchased power spending) to those of several "peer" utilities. His comparison led him—

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[98] CEPR-RS-05-21(d) at 5. Commission's Twelve Request of Information (September 16, 2016).

[99] *Id.*

[100] *See* Attachment 3, page 9.

[101] *See* Smith-Dady Report Table 12, at 34.

> to conclude that PREPA's expenses are not being artificially inflated because of inefficient operations or excessive wage payments to PREPA employees. The evidence suggests that PREPA's internal cost management is not the primary factor in PREPA's financial difficulties. The PREPA figures, however, likely reflect downward pressures on spending due to its financial difficulties.[102]

While the last sentence in this quote is true, the rest of Dr. Kaufmann's submittal is not responsive to the question the Commission proceeding must answer: whether PREPA's proposed revenue requirement and accompanying rates are just and reasonable, given its obligation to plan and operate a safe and reliable electric system.

117. Indeed, had PREPA spent the money it needed to achieve this result, its costs might have been far above the levels of its "peers." Dr. Kaufmann's analysis, based on data from years 2008 through 2014, made no adjustment for quality of service. Even if we assume that PREPA's spending through 2014 was fully sufficient for its needs (an assumption which Drs. Fisher and Horowitz disproved), PREPA's costs in the past two years do not represent the spending necessary to operate a safe and reliable system.

118. Comparing the costs of a utility whose performance is poor with the costs of utilities whose performance is good is the ultimate apples-to-oranges error. As Drs. Fisher and Horowitz explained, Duke Florida—one of the "peer" utilities identified by Dr. Kaufmann[103]—reported an adjusted SAIDI goal of approximately 80 minutes per year for 2015. PREPA's SAIDI in 2013 (a year comfortably within Dr. Kaufmann's period of analysis) was, on average, *51 minutes per month*. In other words, PREPA's system is approximately eight times less reliable (based on this metric alone) than Duke Florida's. So what if their costs were comparable?

119. At the technical hearing, Dr. Kaufmann was asked a series of questions designed to determine his submission's value to the Commission. Here are those questions and his answers:

> Does your analysis tell us if PREPA's employees are productive relative to their peers in other utilities? No.
>
> Does your analysis tell us if PREPA is using resources cost-effectively? No.
>
> Does your analysis tell us whether Dr. Quintana is doing a good job? No.

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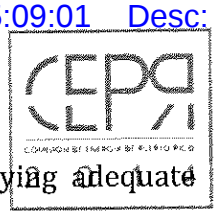
[102] PREPA's Petition for Rate Review, Ex. 6.0, Direct Testimony of Larry Kaufmann, ll. 532-536.

[103] *Id.* at l. 191.



Does your analysis tell us whether PREPA's board members are paying adequate attention to the company's welfare? No.

Does your analysis tell us whether PREPA's management, employees and executives are subject to rewards and penalties designed to induce the best possible performance? No.

Does your analysis tell us whether PREPA has negotiated the best possible deal with creditors? No.

Does your analysis tell us whether PREPA is handling interconnection of renewable generators effectively? No.

Does your analysis tell us whether PREPA negotiates effectively with its contractors? No.

Does your analysis tell us whether PREPA costs reflect prudent performance in light of its unique situation? No.

Does your analysis tell us whether PREPA has too much surplus capacity? No.

Does your analysis tell us anything about customer satisfaction? No.

Does your study tell us whether PREPA physical system is in good condition or bad condition? No.

Does your study tell us whether PREPA has been undercharging for service for some period prior to your study's period? No.

Assume that PREPA has been undercharging for service for some period prior to your study's period. Does your analysis tell us whether PREPA will have to increase its revenue for customer in future years to make up for the undercharging in prior years? No.

Are the numbers in your submission adjusted for quality of service indicators? No.

When asked the ultimate question—Is there any proposition that needs to be in the Commission's final order for which his submission would be evidentiary support—his answer was another version of "No."

It is not clear to us that the mismatch between Dr. Kaufmann's submission and what this Commission needed was his fault. He was retained by PREPA's consultant Ralph Zarumba, who testified he sought to address public and media concerns that PREPA's costs were too high. Dr. Kaufmann produced the study he was hired to produce. He answered the Commission's questions straightforwardly and succinctly. He acknowledged his study's

limitations rather than stretch his comparisons to make points they did not support. We do not find fault with Dr. Kaufmann.

120. We do find fault with those who decided to retain him: Mr. Zarumba, and the attorneys for PREPA who made the decision to submit Dr. Kaufmann's testimony. It is the attorney's responsibility to submit only material that will be useful to the Commission. Understanding that responsibility, and acting consistently with it, is especially important where the cost of such erroneous decision-making falls on the customers.

121. Because of this serious error in litigation thinking, the Commission requires that PREPA propose to the Commission guidelines for judging the usefulness of testimony before PREPA incurs the costs to prepare and submit it. Such guidelines shall include procedures by which PREPA and the Commission can ensure that costs incurred by PREPA and charged to ratepayers are costs that help the Commission serve ratepayers. PREPA shall propose similar guidelines for its use of regulatory attorneys. Unless and until PREPA wants to find a source of litigation funds other than its customers, it must show that the value of its submissions will accrue to the customers.

* * *

122. Having described the underlying reasoning for the Commission's decisions on operational expenses, we next describe the specific decisions for each cost area.

3. Generation

123. PREPA proposed Generation Expenses of $122.4 million. This amount compares with the following amounts from FY2014, FY2015, and FY2016: $160.5 million, $145.4 million and $126.3 million, respectively.

124. Drs. Fisher and Horowitz concluded that PREPA did not properly maintain its generation facilities in FY2015 or FY2016, and that PREPA's FY2017 budget amount for Generation Expense is inadequate for the safe and reliable provision of electric service. They have recommended increases to PREPA's FY2017 Generation Expense of $9.680 million for Labor and $4.495 million for non-Labor, for a total FY2017 Generation Expense increase of $14.175 million.[104] The Commission accepts this recommendation. Their recommended increase to FY2017 Generation Expense of $14.175 million has been reflected in Attachment 1 (a revision of Smith and Dady Ex. 3).[105]

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[104] Fisher-Horowitz Report at Tables 34 and 35.

[105] See also Attachment 3 at 6.

125. Additionally, as discussed in conjunction with PREPA's forecast FY2017 Capital Expenditures, Commission Advisors Fisher and Horowitz have recommended that $16 million for certain maintenance contracts be reclassified from Capital Expenditures to Generation Expense.[106] The Commission accepts this recommendation. Attachment 1 reflects this $16 million cost reclassification adjustment.[107]

Directives

1. ***Operating and maintenance (O&M) expenses include standard repairs and maintenance required to keep an asset in operational condition. These types of repairs shall be accounted for in the period incurred—i.e., expensed in a maintenance category. This category shall include repairs that may last more than a year, but shorter than a full maintenance cycle.***

2. ***PREPA has not properly maintained its generation facilities in FY2015 or FY2016. PREPA shall increase its FY2017 Generation Expense of $9.680 million for Labor and $4.495 for non-Labor, for a total FY2017 Generation Expense increase of $14.175 million.***

3. ***PREPA shall reclassify the contracts listed in Attachment 3, page 2-3, totaling $16 million from Capital Expenditure to Generation Expense.***

4. **Transmission and distribution**

126. PREPA has proposed Transmission Expenses of $34.2 million. This amount compares with the following amounts from FY2014, FY2015, and FY2016: $44.9 million, $40.7 million and $35.3 million, respectively.

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[106] PREPA opposed this reclassification arguing that such treatment adds a level of complication and potential misrepresentation of how these costs will ultimately be reflected on the books of PREPA. PREPA also stated that these expenses are incurred under long-term service agreement maintenance contracts that have been historically budgeted by PREPA as capital expenditures and that the reason for that treatment is that these contracts are generally used for PREPA's overhaul or "turnaround" maintenance on various components of the generation units. As previously stated, PREPA is required to follow the FERC USoA for Electric Utilities. PREPA's accounting in the past may have been haphazard between capital expenditures and periodic maintenance expenses. As PREPA correctly stated, the reclassification does not impact PREPA's revenue requirement. However, all PREPA's expenditures need to be accounted for in an accurate manner. For this reason, PREPA should not be capitalizing current period maintenance. Therefore, the Commission accepts the recommendation of advisors Fisher and Horowitz that the three maintenance contracts that constitute the $16 million are appropriately treated as maintenance expense.

[107] See also Attachment 3 at 2-3.

127. Drs. Fisher and Horowitz concluded that PREPA did not properly maintain its transmission facilities in FY2015 or FY2016. They have recommended increases to PREPA's FY2017 Transmission Expense of $3.330 million for Labor and $479,000 for non-Labor, for a total FY2017 Transmission Expense increase of $3.809 million.[108] The Commission accepts this recommendation. Attachment 1 reflects this adjustment.[109]

128. PREPA has proposed Distribution Expenses of $169.3 million. This amount compares with the following amounts from FY2014, FY2015, and FY2016: $222.0 million, $201.1 million and $174.6 million.

129. Drs. Fisher and Horowitz concluded that PREPA did not properly maintain its distribution facilities in FY2015 or FY2016. They have recommended increases to PREPA's FY2017 Distribution Expense of $16.115 million for Labor and $2.372 million for non-Labor, for a total FY2017 Distribution Expense increase of $18.487 million.[110] The Commission accepts this recommendation. Attachment 1 reflects this increase.[111]

Directives

1. ***PREPA has not properly maintained its transmission facilities in FY2015 or FY2016. PREPA shall increase its FY2017 Transmission Expense of $3.330 million for Labor and $479,000 for non-Labor, for a total FY2017 Transmission Expense increase of $3.809 million.***

2. ***PREPA has not properly maintained its distribution facilities. PREPA shall increase its FY2017 Distribution Expense by $16.115 million for Labor and $2.372 million for non-Labor, for a total FY2017 Distribution Expense increase of $18.487 million.***

5. Customer billing

130. PREPA has proposed Customer Billing Expenses of $84.9 million. This amount compares with the following amounts from FY2014, FY2015, and FY2016: $111.4 million, $100.9 million and $87.6 million, respectively. The Commission's advisors recommended no adjustment to this amount. The Commission accepts this recommendation.

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[108] Fisher-Horowitz Report at Tables 34 and 35.

[109] See also Attachment 3 at 6.

[110] Fisher-Horowitz Report at Tables 34 and 35.

[111] See also Attachment 3 at 6.

Directive

There shall be no change to PREPA's proposed FY2017 customer service amount.

6. Bad debt expense

131. PREPA proposed Bad Debt Expense of $85.4 million, in contrast to the FY2014 recorded amount of $191.5 million. The $85.4 million is based on an uncollectibles rate of 2.97%.[112]

132. To arrive at the $85.4 million figure, PREPA multiplied the 2.97% uncollectibles rate by the sum of the following costs: (1) fuel and purchased power expense; (2) non-fuel O&M expense; (3) fuel performance improvements (a negative number, because these are savings); (4) CILT subsidy recovery; (5) Energy Administration Assessment; (6) proposed capital expenditures; (7) Debt service; and (8) Other Income.

133. Smith and Dady concluded that the percentage was appropriate, but recommended that we multiply it by a higher total amount due to the increase in fuel expense (discussed in Part Two-III.B below). Doing so (and reflecting other smaller adjustments to the PREPA-proposed revenue requirement) produced an increase to Bad Debt Expense of $12 million, producing a total of $97.384 million as shown in Attachment 1.[113]

Directive

The revenue requirement for bad debt expense shall be $97.384 million, resulting from multiplying PREPA's estimated uncollectibles rate of 2.97% by the full amount of PREPA's proposed expenses (as adjusted by the Commission).

7. Administrative and general

134. PREPA has proposed Administrative and General Expenses of $148.9 million. This amount compares with the following amounts from FY2014, FY2015, and FY2016: $195.3 million, $176.9 million and $153.6 million, respectively.

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[112] That percentage is the ratio of uncollectibles to Utility Operating Revenue. It is the percentage PREPA says it experienced in FY2016.

[113] See also Attachment 3 at 8.

135. Drs. Fisher and Horowitz expressed deep concern that—

> PREPA spent the astonishing figure of $165 million in A&G in FY2016, of which $134 million fell into an undescribed discretionary fund. To give this figure context, PREPA spent the equivalent of *more than a third of its entire capital budget* on discretionary A&G spending.[114]

Drs. Fisher and Horowitz recommend a decrease of $17.1 million.[115] The Commission accepts this recommendation. Attachment 1 reflects this recommendation.[116]

Directives

1. ***PREPA shall decrease A&G labor expense by $17.057 million.***

2. ***PREPA shall develop and submit to the Commission a revised monthly report format, providing for greater detail on PREPA's operational budgets, organized by functional area.***

3. ***PREPA shall provide detailed information on the spending within the "miscellaneous" non-labor segment of the Administrative and General functional area. Such information shall distinguish between funds spent to date and funds not yet spent.***

8. Workforce Levels

136. According to PREPA's panel of Miranda, Perez and Sosa, PREPA is having difficulty managing its workforce.[117] They state that PREPA is an inefficient bureaucracy with high absenteeism, has an unacceptable safety record, is overly staffed with non-value-added administrative personnel, especially in the executive directorate, and has an oversized executive team. There is also a shortage of technical expertise. Here is what these witnesses stated:

> Generally, the team encountered outdated human resource processes that were not conducive to a safe and productive workforce. Among the problems were inflexible work rules and high absenteeism. Paid leave was twice the industry norm at 80 days per year. The retirement system is projected to be

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[114] Fisher-Horowitz Report at 15 (emphasis in original).

[115] *Id.* at Table 34.

[116] See also Attachment 3 at 6.

[117] PREPA Ex. 3.0 at 31-32. Miranda, who has retired, was a senior executive at PREPA. Perez and Sosa are consultants with Alix Partners.

> insolvent by 2024 and needs immediate attention to thwart that result. There also is an unacceptable safety record, with more than 14,000 accidents and 15 fatalities over a 10 year period.
>
> Additionally, PREPA did not have any succession plans with approximately 1,050 staff currently eligible for retirement-many of which are in critical positions. PREPA is currently averaging 350 retirements per year.
>
> PREPA also lacked a formal performance management process and limited use of [Key Performance Indicators] KPIs. The team encountered low accountability and lack of leadership from top management. Often leaders and managers were placed in positions based on political affiliation vs. job qualifications. Job descriptions also were outdated or non-existent.
>
> From an organizational standpoint, PREPA is an inefficient bureaucracy with numerous silos. Certain areas are overly staffed with non-value added administrative personnel. In addition, the executive directorate and executive team is oversized. There also is a shortage of expertise in specific technical skill areas.[118]

Their direct testimony (PREPA Ex. 3.0) describes steps PREPA has been taking to solve these problems. Since 2014, PREPA's headcount has declined by approximately 1,100 full-time employees through attrition. PREPA expects an additional decline of approximately 600 full-time employees by 2019.

137. Reducing headcount does not necessarily increase efficiency. As discussed in Part Two-III, Commission Advisors Fisher and Horowitz concluded that during FY2015 and FY2016 PREPA did not maintain its electric system adequately, in part due to insufficient staff. Within their proposed spending modifications are increases for labor for generation, transmission and distribution, as well as decreases for labor in the A&G area. Specifically, they propose a net increase of $12.068 million for labor, consisting of:

> —a $9.680 million increase to Generation Expense;
> —a $3.330 million increase to Transmission Expense;
> —a $16.115 million increase to Distribution Expense; and
> —a $17.057 million decrease to Administrative and General Expense.[119]

We approve these amounts. As indicated, these numbers are within the already approved amounts for generation, transmission, distribution and administrative & general.

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[118] *Id.* at 31.

[119] Fisher-Horowitz Report at Table 34. These adjustments are displayed in Attachment 3 at 6.

9. Energy Administration Assessment

138. PREPA's revenue requirement request includes $5.8 million for the Energy Administration Assessment, established by Article 6.16(c) of Act 57-2014. PREPA is required to pay that amount annually by sending it to the Treasury, which then sends it to the Commission in two installments of $2.9 million each. The Commission approves this amount.

10. Fines and penalties

139. As detailed in the Smith-Dady Report (at 61-62), PREPA has been incurring hundreds of thousands of dollars in fines for environmental non-compliance. Besides the environmental damage, and the awkwardness of government utility violating government rules, there is the problem of financial accountability. PREPA has no shareholders. Therefore, the fines resulting from actions or inactions by executives, managers and employees, fall not on those at-fault individuals but on the ratepayers. Our citizens not only suffer the consequences of environmental damage; they also must pay for the penalties. That is beyond irony. The situation contributes to a culture within PREPA of "not my problem." The purpose of fines and penalties is to induce compliance. Passing the cost on to customers does not achieve compliance.

140. A separate problem is accounting. PREPA says it has been recording its fines and penalties in accounts 92316 and 93000.[120] But the FERC USoA instruction 21-G provides that fines and penalties are to be recorded in account 426.3, Penalties.[121]

141. PREPA stated at the technical hearing that it has received no specific notices of fines or penalties for FY2017.

Directives

1. ***PREPA shall account for fines and penalties in the proper account; specifically, FERC account 426.3.***

2. ***PREPA shall verify that it has not included in its proposed revenue requirement any amounts for fines and penalties.***

3. ***PREPA shall submit to the Commission a full explanation of the causes of fines and penalties from FY2013 to the present, including the names and***

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[120] PREPA's 5-digit account numbers appear to correspond with accounts 923 and 930 in the FERC—the standard accounting system used by utilities.

[121] "G. Any penalties assessed by the Environmental Protection Agency for the emission of excess pollutants shall be charged to Account 426.3, Penalties."

titles of specific individuals whose actions or inactions contributed to the violations that triggered the penalties.

4. ***If PREPA incurs fines and penalties for FY2017 or future years, it shall explain to the Commission the nature of these costs and the specific individuals responsible for the actions or inactions causing the fines or penalties. PREPA also shall submit to the Commission a plan for complying with all rules so as to avoid future fines and penalties.***

5. ***PREPA shall continue its policy, per the Consent Decree discussed in its FY2014 audited financial statement, of paying the stipulated penalty in advance to benefit from a 50% discount.***[122]

11. Unused properties

142. PREPA owns properties which it neither uses nor needs to provide utility service.[123] These properties have been recorded on PREPA's books at the cost of acquisition. PREPA is in the process of hiring a real estate management firm to appraise the properties and maximize their value through sale, lease or other use.

Directive relating to unused property

PREPA shall provide updates concerning the appraised value of PREPA's unused property (i.e., property not needed to provide utility service), as well as PREPA's plans for maximizing the value of such properties.

12. Other Directives

1. ***PREPA shall adjust its monthly report format to list monthly and year-to-date actual spending and budgeted values by labor and non-labor expenses in the same functional areas used herein. These reports shall include the total annual budgets and percent of budgets spent in the past month and year-to-date.***

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[122] PREPA's FY2014 audited financial statements (PREPA Exs. I-2, pp. 82-101) notes that PREPA has paid fines under the Consent Decree. At page 82 (PFE 000086) PREPA states: "The Consent Decree includes stipulated penalties for certain events of non-compliance. Non-compliance events must be disclosed to the EPA in the corresponding report. Ordinarily, when a cover noncompliance event occurs, the Authority pays the stipulated penalty in advance in order to benefit from a 50% discount of the applicable stipulated penalty."

[123] These properties are listed in PREPA's response to CEPR-RS-05-33.

2. ***PREPA shall prepare a report, to be submitted with its next rate case filing, regarding its use (or lack thereof) of the additional $19.4 million of operational expenses allowed by the Commission (per Attachment 3, page 6) and the effect of that spending on its system.***

3. ***PREPA shall continue to record its monthly operations spending by directorate. When PREPA reallocates funds between directorates, it shall memorialize and justify such reallocations in written form.***

4. ***PREPA shall prepare a report, to be submitted with its next rate case filing, that shall include it's as-approved internal operations expense budget by directorate, its actual monthly operations spending by directorate, and a listing of these memorialized reallocations and the justifications thereof.***

B. Fuel and power purchase expense

143. For fuel and purchased power, PREPA originally proposed a revenue requirement of about $1.47 billion in FY2017: $656 million for fuel and $820 million for purchased power. The $656 million figure results from PREPA's projection of $763.7 million in fuel expense, less performance savings of $107.7 million.[124] Combined, these amounts total approximately half of PREPA's entire FY2017 revenue requirement. These figures are projections, not budgets, because there will be an adjustment mechanism, discussed in Part Four-III.B, that reconciles actual costs with projections.

144. Drs. Fisher and Horowitz recommended an increase of $461.3 million, due to their conclusion that PREPA significantly has under-budgeted fuel expense. They recommended no change in the projected performance savings and no change in the purchased power expense. PREPA separately also updated its proposed revenue to reflect higher fuel prices.

145. In this section we discuss background facts on PREPA's fuel consumption and power purchases, describe its budgeting process for these costs, then evaluate the budgets and make findings. We address here only the reasonableness of these costs. We will address the method of cost recovery (*i.e.*, base rate vs. adjustment charge) in Part Three-III below.

1. Background facts on PREPA's fuel consumption

146. PREPA's generation fleet (*i.e.*, excluding the generation owned by its third-party suppliers of power) consists largely of fossil-fired generators. Apart from two units at the Costa Sur plant, all of PREPA's thermal generators burn either distillate fuel oil or residual

[124] The projected performance savings involve these categories: generation dispatch, fuel sourcing, fuel supply chain, spinning reserves, and forced outages.

fuel oil.[125] PREPA's combined cycle and gas turbine units burn mostly distillate and its steam units burn residual. Costa Sur units 5 and 6 burn a blend of natural gas and residual fuel oil.

147. PREPA's fuel mix has changed over time. In FY2011, residual represented 90% of the fuel burned by PREPA, with the remainder made up of distillate oil. In FY2012, PREPA started burning natural gas at Costa Sur. Gas today represents 27% of PREPA's total fuel use. Use of distillate has increased to approximately 20%, while PREPA's reliance on residual has declined, now representing half of PREPA's fuel consumption.

148. Since PREPA's generation fleet will remain largely the same in FY2017, the total fuel consumption and the shares of fuel types will resemble recent years.

149. PREPA's process for approving and overseeing fuel contracts involves multiple officials. They include the Treasurer, the Head of the Environmental Protection and Quality Assurance Division, the Fuel Office Manager, the Chief Financial Officer, the Director of Legal Affairs, the Operations and Infrastructure Manager, the Head of the Technical Services Division, the Head of the Division of Electrical Conservation and Protection Electric System, the Head of the Division of Electrical Distribution, and the Head of the Material Management Division. All fuel purchase contracts are signed by the Executive Director.[126]

2. Background facts on PREPA's power purchases

150. PREPA has two fossil PPOAs: one with EcoEléctrica, which operates a 507 MW, natural gas-fired combined cycle plant; and one with AES, which operates a 454 MW coal-fired steam plant.

151. PREPA's contractual terms with AES are straightforward. PREPA pays for the energy AES produces and the dependable capacity it provides. PREPA also compensates AES for its startup-related costs after any unit shutdown requested by PREPA. PREPA's energy payment to AES has two components: a fuel pass-through and a charge for variable operations and maintenance costs. The per-kWh energy price is fixed every year, subject to a guarantee from PREPA that the unit will be dispatched at a capacity factor of at least 50%. The capacity price reflects AES's capitals costs and its fixed operations and maintenance costs.

152. PREPA's contract with EcoEléctrica is more complex. It includes a capacity payment and a base energy charge (both of which are structured similarly to the AES

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[125] Distillate is one common name for the No. 2 grade of fuel oil. It is also sometimes referred to as diesel fuel. Residual is one common name for the No. 6 grade of fuel oil. It has a higher viscosity than No. 2 fuel oil and may contain higher levels of impurities.

[126] Response to CEPR-RS-01-05 at 66. Commission's Fourth Request of Information (July 15, 2016).

contract, although unlike the AES energy charge, the EcoEléctrica base energy charge is adjusted based on the unit's heat rate at different levels of output). As with the EcoEléctrica contract, PREPA pays charges for unit start-up if PREPA requested the preceding shut-down. The EcoEléctrica contract also requires an "excess energy payment" for energy required above a 76% capacity factor. EcoEléctrica sets the usage level associated with the 76% capacity factor monthly and sets the excess energy rate weekly. These factors make it difficult for PREPA to predict its payments to EcoEléctrica.

153. PREPA has active contracts with several renewable energy providers. These contracts include ones with two wind farms, a landfill gas-fired generator and four solar farms. These sellers total approximately 157 MW of capacity. PREPA's contracts with renewable generators typically contain a base energy price with a yearly escalator, plus a payment for renewable energy credits ("RECs"). Our IRP Order detailed concerns with these contracts.

3. The budgeting process for fuel and purchased power

154. To budget fuel and purchased power costs for a given budget period, PREPA undertakes four main steps.

155. First, PREPA forecasts loads and fuel prices. For its FY2017 projections, PREPA relied on fuel price forecasts prepared by Siemens in February of 2016. Siemens described these forecasts as a "lower bound" on the expected trajectory of fuel prices.[127] In the Final Resolution and Order on the IRP, the Commission found that these forecasts were well below contemporaneous forecasts from credible public forecasts. According to the Fisher-Horowitz Report, the IRP Order's finding has been borne out. Prices have risen greatly. As shown in Table 28 of the Fisher-Horowitz Report, Siemens's fuel price forecasts were wrong.

156. Second, PREPA gathers cost data related to its Power Purchase and Operating Agreement ("PPOA") contracts. To represent PREPA's contract terms in PROMOD (the computerized production cost model to be explained shortly), PREPA makes several adjustments and assumptions. For the renewable contracts, PREPA inputs the contractual energy and REC charges, and uses a capacity factor of 21%. For its contracts with AES, PREPA models a fuel cost and a variable operations and maintenance ("O&M") cost, then separately inputs a capacity charge calculated as a combination of a fixed O&M cost and a capital cost. PREPA follows a similar process for the EcoEléctrica contract. Because the excess energy charge in that contract is determined periodically and unilaterally by the seller, PREPA's modeling of that charge is an educated guess. Our consultants reviewed PREPA's methods and confirmed their reasonableness.

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[127] CEPR-AP-2015-0002; IRP Technical Hearing, April 6, 2016, Nelson Bacalao, 00:14:15 of part 5 of the hearing recording.

157. Third, PREPA determines performance and operational cost data related to its own units.

158. Fourth, the foregoing information is input into PROMOD, a "production cost model" that determines an optimal (*i.e.*, lowest cost while still satisfying demand) dispatch pattern for all units on PREPA's system. PROMOD model forecasts the costs of production in detail—this output becoming PREPA's projected costs.

159. Drs. Fisher and Horowitz raised several concerns about PREPA's use of PROMOD, but felt that each concern was sufficiently small that necessary corrections could occur through the fuel and purchased power adjustors. The concerns were as follow:

1. PREPA used high minimum run times for its steam units, potentially leading to under-use of lower cost units.

2. PREPA assumed for Costa Sur a higher percentage of natural gas than current practice supports.

3. PREPA expects that in FY2017, EcoEléctrica's excess energy price will be lower than PREPA's variable cost of generation, more often than was the case in FY2016. That expectation led PREPA to model a frequent use of EcoEléctrica above the 76% threshold that triggers the excess energy price. Drs. Fisher and Horowitz saw no evidence to support this expectation. Of distinct concern was given the low availability and low flexibility of many of PREPA's units, PREPA would have difficulty committing them quickly to avoid a high excess energy price.[128]

4. While modeling the renewable contracts was mostly straightforward, the consultants found several exceptions involving deviations of modeled prices from contractual prices.[129]

4. Evaluation of PREPA's fuel and purchased power budgets

160. Fuel: Drs. Fisher and Horowitz found that PREPA's fuel spending in the first two months of FY2017 was double its projection. As a result, they recommend a major increase in PREPA's fuel cost for FY2017. Admitting their estimate is rough (and will be corrected through the fuel adjustor), they offered three estimating methods, displayed in Table 25 of the Fisher-Horowitz Report. The median estimate is a total, before performance savings, of $1,225,000,000. This new total requires increasing PREPA's proposed revenue requirement

[128] One PREPA witness did assert that the excess energy price is not always something to avoid; sometimes it is a way to save money when that price is lower than PREPA's marginal cost.

[129] See Table 19 of the Fisher-Horowitz Report.

by $461,305,000. We adopt this level as reasonable, recognizing that deviations from this amount will be recovered through the adjustor clause. Attachment 1 reflects this adjustment.[130]

161. Purchased power: Drs. Fisher and Horowitz found that since FY2010, PREPA's predictions of its purchased power spending have been reasonably accurate—a conclusion that has held so far in FY2017. The renewable contracts present uncertainty—not due to their prices (which are contractual) but due to their output, because their online dates are difficult to predict. Embodying this uncertainty is a 21% drop ($30 million), after less than six months, in PREPA's expectations regarding spending on renewable energy contracts.[131] Taking all these facts together, our consultants found "no compelling cause" to adjust PREPA's total PPOA budget, and we agree. The revenue requirement shall reflect PREPA's proposed purchased power cost of $819,907,000.

Directives on fuel

1. ***PREPA shall increase its FY2017 fuels budget (and its revenue requirement) by $461,305,000, for a total FY2017 fuel budget of $1,117,273,000.***

2. ***As presented in its filing on Schedule A-6, PREPA proposed to include the following costs in the Fuel Adjustor: fuels (residual, distillate, natural gas, propane, additives), transportation, inspection, laboratories, storage, handling, delay, taxes, and hedging. PREPA has not incurred Fuel Expense for Additives in the last three fiscal years through FY2016. Nor has it incurred expense for Delays or Fuel Hedging in the last two fiscal years (FY2015 and FY2016). Before incurring such costs in the future, PREPA shall submit to the Commission a request for approval, containing the proposed amount and a justification, and await approval. All other categories of Fuel Expense proposed by PREPA shall be included in its revenue requirement.***

3. ***In the upcoming performance proceeding, the Commission will require PREPA to recommend to the Commission at least three firms to conduct a management performance review specifically relating to fuel purchase costs. These firms may be the same firms recommended for the purchased power review discussed below. The Commission will select one firm, which shall contract with PREPA to conduct the review under specifications established by the Commission. Such review shall contain, without***

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[130] See also Attachment 3 at 5.

[131] See the IRP Final Order at Part IV(F)(4) for a discussion of Commission concerns about uncertainty involving renewables contracts.

limitation, a recommendation regarding procedures for periodic audits of PREPA's fuel procurement, to ensure that such costs are reasonable and accounted for properly.[132]

4. ***PREPA shall prepare fuel price forecasts at least semi-annually, submit them to the Commission and post them on its web site.***

Directives on power purchases

1. ***There are no adjustments to PREPA's projected FY2017 Purchased Power Expense.***

2. ***In the upcoming performance proceeding, the Commission will require PREPA to recommend to the Commission at least three firms to conduct a management performance review specifically relating to purchased power. These firms may be the same firms recommended for the fuel cost review. The Commission will select one firm, which shall contract with PREPA to conduct the review under specifications established by the Commission. Such review shall contain, without limitation, a recommendation regarding procedures for periodic audits of PREPA's power purchases, to ensure that such costs are reasonable and accounted for properly.***[133]

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[132] PREPA opposed the performance review process stating that such a review will inherently impose burdens and costs and the costs ultimately would be borne by customers. The Commission notes that an independent management performance review can produce significant cost savings from improvements, which are typically greater than the cost incurred in the review process. Moreover, the cost can be less and the customer benefits greater, if the review is conducted by a qualified and independent consultant that is selected by the Commission, rather than by the utility that is being investigated.

[133] Regarding the prices in existing renewable contracts, the Commission is not suggesting that high prices in existing renewable contracts reflect imprudent actions by PREPA or excess costs to consumers. Windmar argues that contracts signed in 2010-2012 preceded declines in renewable energy equipment, and occurred at a time when high oil prices made such contracts attractive to PREPA. Our point is not that PREPA necessarily should seek to terminate contracts, but to examine whether renegotiations can lower prices and also make operational dates more certain.

Sunnova and Windmar argue that PREPA's revenue requirement should include an amount for distributed generation RECs. They assert that PREPA has refused to comply with the Renewable Portfolio Standard established by Act 82-2010 by not acquiring all available RECs, and that PREPA owes penalties for non-compliance. Enforcing the RPS obligation—including determining the scope of that obligation—does not fall within the boundaries of this rate proceeding. The proper approach is to submit a complaint alleging specific facts and proposing specific remedies. To the extent the disposition of such a complaint changes PREPA's revenue requirement, the Commission would reflect such change in future rates.